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THE BUILDING NEWS

AND

ENGINEERING JOURNAL.

VOLUME ONE HUNDRED AND SEVENTEEN.
JULY TO DECEMBER, 1919.

15-5-303
15/6/20

Published for the STRAND NEWSPAPER CO., Ltd., by E. J. KIBBLEWHITE, Managing Director,

AT THE OFFICE OF THE "BUILDING NEWS,"

EFFINGHAM HOUSE, ARUNDEL STREET, STRAND, LONDON, W.C.

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ESTABLISHED 1870.

Telegrams: "Impermeable, 'Phone, London."

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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Currente Calamo.

That Peace is made at last, even of so many pieces which have yet to be dovetailed into a lasting bulwark against the renewal of the reckless perfidy with which Germany defiantly challenged chastisement by the civilised world, all will hope; but it is useless to deny that the hope is tinged with doubts, enhanced by indications already too visible. An evening contemporary was on sale in a North Wales town on Saturday night with the following brief but startling announcement stamped in its stop-press column:—"Peace, signed." Is it, already? The same morning the *Deutsche Zeitung* flung across its front page an adjuration not to forget the "Peace of Infamy," and assured its readers that "With restless labour the German race will work itself on high again, in order to win back that place among the nations which is its right. Then, vengeance for the shame of 1919!" Its brother blusterer the *Berliner Neueste Nachrichten* "wondered that no lightning descended from Heaven to consume the Hall of Mirrors." Herr Theodor Wolff, in the *Berliner Tageblatt*, declares: "The Treaty is only a scrap of paper, because it mocks all wisdom and morality, and stands out as a document of shame in the museum of civilisation." Even Vorwaerts insists that the "Treaty is full of injustices, brutalities, and exploitations," and that the world will not permit such an arbitrary disfigurement of its natural development." If all this is not mere bluster, when all too prematurely:

bang, bang, bang the hundred and one of 'em
Boomed in our ears the blessings of the
Peace.
better sav'd our powder, for every single gun
of 'em
I fear we soon shall need to give the Hun his
grease.

but one more "scrap of paper" the German
really deems
The record of his crimes and their too
merciful reward,
and upsets the League of Nations when he's
swallowed down his rations,
Then vainly have his conquerors sheath'd
the sword.

urely in quietness and confidence must
our sole strength; but as surely not the
riety of the supine victims of another
id of rapine and murder, already
reatened, nor the confidence of placid
sillanimitv with the platitudes of those
ho, like General Smuts, profess to

regard the Treaty as "simply the liquidation of the war situation in the wood"?

The Government and the Opposition were alike pretty much at sixes and sevens last Wednesday and Thursday over the valuation clauses in the Land Acquisition Bill. Sir Edward Carson opened the ball by a complete acceptance of the principle that the valuation of land when acquired for public purposes should be the same as when assessed for taxation. This was followed by an attempt to substitute the Inland Revenue Commissioners for the tribunal proposed by the Bill, by Sir D. MacLean, who insisted that the Valuation Department under the flagitious Finance Act, 1910, had devoted "the whole of its energies to finding out the value of land, that it was only waiting to be started again at full speed." Sir D. MacLean does not know, we suppose, that the Government are considering whether the Valuation Department is worth continuing on the old basis! As for the Inland Revenue Commissioners, not only are they the stalking-horses of the present determination of the Treasury to squeeze every possible farthing out of the taxpayer, and they certainly have no knowledge of the many collateral considerations which arise when property is compulsorily purchased. Questions of severance, for instance, might be disregarded altogether if values are only to be based on taxation assessments. Sir D. MacLean's amendment was, therefore, very properly rejected, as was that of Capt. Bagley, who wanted to fix values on a pre-war basis, oblivious, apparently, of the fact that to fix a pre-war value when the value of money has fallen by fifty per cent. since would be ridiculously unfair. Wednesday's debate, therefore, left the Bill as it stood.

We are not quite so sure about that of Thursday, when, at the start, Mr. Rawlinson moved to delete the clause which provides for whole-time valuers, and directs that each valuer shall hold office "for such term as may be determined by the Treasury" when he is appointed. There is a strong feeling that to sunder the valuers from their ordinary work which certainly keeps them in touch with matters must influence any fair estimate of the value of compulsorily acquired property. Anyhow, the motion was rejected, as was that of Mr. Cautley, who proposed to make the Reference Committee the appointing

authority, with power to fix the term of engagement, and in the end the clause was amended and it was made to provide that an official valuer shall hold office "for such term certain" as may be determined by the Treasury. That seems to us to leave certainty very uncertain. It is hardly surprising that Sir D. MacLean found only one follower for his proposal to base valuations on any returns and assessments made and accepted by the claimant during the preceding three years! At the finish it seems to have occurred to the Government to make a concession which provides "always that regard shall be had to all the returns and assessments for taxation made or acquiesced in by the claimant during the three years next preceding the assessment of compensation." It may materially help any trustworthy tribunal honestly disposed towards a claimant. It may perniciously strengthen one that "sees red" when any unfortunate property owner objects to being skinned alive just to encourage others to pay their fair share of taxation as he has done in the past.

Some useful amendments in the Housing Bill will probably be suggested in the House of Lords next Monday when the Bill goes into Committee. In the debate on the second Reading last Thursday the Lord Chancellor admitted that the Bill as it stood "contained much legislation by reference," but they hoped after it was passed to consolidate the Housing Acts. That, certainly, ought to have been done now; and, till it is, many ambiguities and some direct contradictions will fog many people. Lord Downham quite truly pointed out that when the last Government was succeeded by the present one a bargain made with the local authorities in March, 1918, was torn up, and only 900 out of the 300,000 houses required were now under construction. Financially the local authorities did not know where they were. That is quite true, unfortunately. Lord Downham quoted the figures of the first tenders received by the London County Council for houses to be built to its own estimates. One price was £856 for a four-roomed cottage, and £200 had to be added to the price for land, sewers, and roads. For a three-roomed cottage the price in the tender was £745. Other prices were:—Five-roomed cottage, £843; four-roomed cottage, £785; two-roomed cottage, £655. To these prices again £200 had to be added. The Govern-

ment professed never to have contemplated a deficit per house of more than £15. In reality it was likely to be more like £50, and never less than £20. Now the promise is, according to the Lord Chancellor, that at the end of the "emergency period" the rents of the local authorities' houses shall be fixed at a level that will not expose private enterprise to a standard of competition which it would be unable to survive.

Mr. Herbert W. Horner, in a brief but pithy letter to the *Times*, writing from 8, Aldgate, puts into a nutshell the facts which reveal some of the causes of the rise in building prices. As a builder of over forty years' experience his information may be implicitly relied on, especially as regards the present high price of building labour. The pre-war wages in London for carpenters, joiners, bricklayers, masons, and plasterers were 10½d. per hour; at present 1s. 9d. per hour. Labourers, 7d. per hour; at present 1s. 5d. per hour. Bricks, woodwork, joinery—i.e., doors, window sashes and frames, skirtings, floorings, etc.—cement, lime, glass, iron and steel for joists and girders, wallpaper and paint, etc., all require labour in their manufacture; the price of these has doubled, and in some cases trebled, in value. It is obvious that under these circumstances building cannot be carried out at the pre-war price. With regard to finance, before the war a respectable builder could borrow money to finance his building speculations at 4 per cent.; while to-day we doubt, with Mr. Horner, if he could obtain it at 7 per cent. Thanks to Mr. Lloyd George's finance, and to the apparent determination of the authorities to "nationalise" building along with everything else, it seems probable that the rising generation will have to pitch its moving tents a day's march nearer home through a wilderness of ruins past repair and impossible to rebuild except by millionaires. Even Dr. Addison thinks there must be some sort of "dilution in the building trade," and an agreement to shorten the term and increase the number of apprentices. Otherwise the winter will come and the house shortage will be worse than ever. He also very truly remarked that "the greatest obstacle to be overcome is ignorance".

The indications of willingness on the part of the workmen of the building trades to co-operate to the best of their ability with those concerned in the building of the new houses for themselves and their fellow-workmen are not numerous. Last week at a conference of employers and operatives in the building trade of the South-East Lancashire District of the Northern area the principal speakers were Mr. Samuel Smethurst, J.P., C.C., of Oldham, and Mr. J. C. H. Robinson, the district organiser of joiners. Mr. Smethurst said he was very keen that the new houses should be built as cheaply as possible consistent with good quality. He exhorted the workmen to build the houses with all the diligence they could command. Speaking of wages and increased production, Mr. Smethurst said it was difficult to get anyone to think of these

questions except in the terms of money, as if that was wealth in the true sense of the word. The only effective wealth was what they created in things, and if they did not create in sufficient abundance someone would have to go short.—In reply to Mr. Smethurst, Mr. Robinson said the workers' attitude towards housing was that the building of houses for the people must be taken out of the hands of private enterprise and dealt with nationally. Mr. Smethurst was only attempting to give the workers another dose of chloroform to keep them quiet while a hole was being burned into the building industry.—The meeting passed a resolution declining to take any part in the Peace celebrations on the ground that whilst so much hardship is being inflicted on discharged soldiers and the widows and children of the fallen men, there is nothing to rejoice about.

BONFIRES AND FIREWORKS.

The *Times* last Thursday uttered a few brief words of admonition, which must have found an echo in the hearts of thoughtful men and women of all classes and conditions. In an article headed as above it commented on the extensive preparations being made in many parts of the country to celebrate the signing of peace. Large sums of ratepayers' money have been voted locally, and other sums are being collected; festivals and processions are being organised, fireworks bought, and bonfires built. These "celebrations" strike us, as they do the *Times*, as "being somewhat out of harmony with the mood of the country. Some of them may be harmless enough; others are merely extravagant. The burning of much good fuel at a moment when fuel is scarce, and is becoming scarcer, needs real justification. True, there will be reason for thanksgiving when peace is signed, but, in the circumstances, it should not be rejoicing of the noisy and thoughtless kind. The nation has already rejoiced with true sincerity on Armistice Day, and its first fine carefree rapture cannot be recalled by municipal resolution or bureaucratic mandate. Early in August there will be days set apart for the celebration of peace, when, it would appear, a concerted ritual, religious and secular, is to be observed under State sanction. These celebrations, like any efforts fitly to mark the return of peace, should, however, be grave rather than gay, and imbued with a consciousness that the official close of the years of war calls rather for prayer and fasting and for determination to make the Peace signed at Versailles a living reality, than for the lighting of bonfires and pyrotechnical display."

Candidly, we confess that the peace it has taken so long to make impresses most of those with whom we have come in contact with no great confidence in its long continuance, and less admiration of the diplomacy which has brought it about. There may be two opinions about that: there can surely be but one regarding the fact that it has to be paid for to the uttermost farthing, and that the best expression of our thankfulness would be a return to wise economy, and the steadfast resolve to husband every shilling, and strain every nerve to restore and improve our lost world-credit for solvency, and with it our commercial supremacy in honest barter, and the production of things necessary and beautiful of high quality. Every penny spent on the mere gratification of vulgar pleasure, either by rich or poor, is simply wasted in pandering to the greed of

those who are always ready to rejoice when somebody else stands treat, and is rank robbery of the thousands of brave men who are still waiting for the just settlement of their claims on the nation, and dishonour to the memory of the dead, who made the great sacrifice of which the shirker and the squanderer are alike unworthy.

The Government, unfortunately, still leads the way in the race of extravagant expenditure. In his speech last Wednesday, Mr. Chamberlain did not conceal his consciousness of the depth of feeling which prevails in regard to this matter, and he endeavoured to assuage it. The public uneasiness, however, arises not so much from details such as those he dealt with as from well-grounded alarm regarding the tendency of Government policy. The deficit in the Budget for the current financial year, as already stated, is £250,000,000. How much of this deficit is due to the bread subsidy, the unemployment donation, the loss upon the railways and the mines, and the Government liability under the housing policy? Would there have been any deficit at all but for the policy of State subsidies in so many directions, but tending mainly to one end—a concealed addition to the wages of labour? Can this end be pursued much longer? Is it likely that those of us who have made the utmost sacrifices in our power to keep things going, will—even when able—continue the efforts in face of the reckless extravagance of those who are mal-administering our resources and pandering to the work-shy of all ranks and classes? Our forebears solved labour problems in sterner fashion. Under the famous Statute of Labourers any two men could denounce to the sheriff a man refusing to work. Moreover, if wages higher than were customary were taken, a penalty of double the amount was inflicted on the labourer by a jury of the "Lord's Court." Treble penalties were imposed upon the "lord" who paid such a wage. Possibly we are not hastening to a régime quite as rigorous in its own degree and conditions as that early one; but we are, beyond doubt, well launched on "the slippery slope" which leads to national bankruptcy, and, like all bankrupts, our pernicious prodigality is marked by the hog-gishness and blindness of the Gadarene devil-possessed swine that were choked on the lake into which they were precipitated.

Doubtless some such reminders as these will not be omitted from the "concerted ritual" of our spiritual pastors which are to herald our peace rejoicings. We trust they will not all be addressed to the more ignorant victims of self-indulgence, or the proselytes of the gospel of "ca'canny," demoralised by that of the slackers among their betters. Even if still State-controlled, some repentant railway directors might still find it possible to facilitate the children's holidays by arrangements—not, of course, on the liberal scale vouchsafed to the gay visitors to Ascot, but on such modest addition to other traffic as might render it possible to ensure safety and reasonable comfort to the youngest. A fatherly but forcible reminder, too, to the Fuel Controller might possibly ensure the receipt by the local controllers of the notices to consumers which should have been in their hands yesterday, but the delay in the despatch of which we are told seems likely to be as disgraceful as it was last year, when they were not issued till the middle of August; though then, as now, some people, favoured by good luck and a tip that prices are again to be raised, as then, are loading their cellars with all they want.

And, surely, in any prayers for Parliament and Premier we should all join

heartily in a plea that now Peace has come the promises of the restoration of our liberties under the responsible administration of constitutional Ministers, and not under the bureaucracy of placemen, plutocrats, and pseudo-politicians, may not have been made, as so often, to the ear to be broken to the hopes. It would evoke the hearty response of all, at any rate, who are not secretly conspiring for, or ignorantly tolerating the anarchist and the traitors at home and their foreign abettors and prompters.

NICHOLAS STONE.

The seventh volume of the Walpole Society, which is issued only to subscribers, and is edited by Mr. A. J. Finberg, and printed at the Oxford University Press, is wholly devoted to "The Note Book and Account Book of Nicholas Stone." The author of the monograph was the late Mr. Walter Lewis Spiers, a younger brother of R. Phené Spiers, district surveyor for Charlton, Lee, and Kidbrooke from 1887 till 1904, when he was appointed Curator of Sir John Soane's Museum. He died in 1917; but, with the exception of the omission of a few repetitions and the correction of some obvious slips, the volume is printed as left by its author. The monograph deals fully with all the work of Nicholas Stone which documentary evidence exists for attributing to him. There are others, as most readers know, about which controversy has raged; and, possibly to the regret of many, they are not dealt with, for doubtless Mr. Spiers's opinion would have been of value. As the work stands it is in every way creditable alike to its author and editor and to the Walpole Society.

Nicholas Stone was Master Mason to James I. and Charles I. Born at Woodbury, near Exeter, in 186, he is said to have been the son of a quarryman, but the first information we have about him is that he was apprenticed to Isaac James for two years, and served him a third year as journeyman. About James nothing is known, but it is probable that he was one of the many unknown London statuarys who executed the many monuments and chimney-pieces of the Elizabethan period. Stone probably came to London when about sixteen or seventeen, and soon after the completion of his apprenticeship made the acquaintance of Henrik de Keyser, Master Mason to the City of Amsterdam, who had been commissioned to build an Exchange there, and came to London to study the Royal Exchange built by Edward Jerman in 1570 at the cost of Sir Thomas Gresham. De Keyser seems to have been attracted by young Stone's character or artistic promise, and took him to Amsterdam to continue his education. There Stone seems to have dwelt with the Keyser family, and to have fallen in love with his master's daughter, whom he married in 1613, the civil wedding having taken place on April 25 that year, and the religious ceremony on May 13 following. The consent to the marriage by De Keyser seems to have been influenced by pleasure at the success with which Stone had sculptured two lions and designed and built a gateway at the Zuider Kerk, one of De Keyser's many buildings at Amsterdam, which was commenced in 1605 and finished in 1612, and was emphasised by the bestowal as part of the bride's dowry of a large portion of the Portland stone quarries owned by her father, which was afterwards used in building the new Banqueting House at Whitehall. A view of the gateway is given in plate viii. (b), heavy in detail, but decorated with the small cartouches and skulls which Stone so frequently introduced into his work.

Returning to England in 1613, then twenty-six years old, Stone took premises in Long Acre, Westminster, which he occupied till his death. His reputation, or influential recommendations, soon brought him work. The earliest entry in his notebook is that of a contract with Sir Walter Butler for the erection of a monument to his uncle the tenth Earl of Ormond in the Cathedral of St. Canice, Kilkenny, at a cost of £230, which was destroyed during the Irish Rebellion. In 1615 we find Stone busy on a still more imposing work, a monument to Henry, first Earl of Northampton, set up in the chapel of Dover Castle at a cost of £500, a price exceeded only in three other instances. Removed, owing to the ruinous condition of the chapel, in 1696, to the chapel of Trinity Hospital, Greenwich, which Lord Northampton founded, the monument was almost entirely destroyed during the rebuilding of the chapel in 1812. It is worth mention showing Stone's kindly feeling towards his old master, James, that a note in his journal on this monument records that he made him his partner "because he was my master three years."

In 1616 King James sent Stone to Edinburgh to carry out work at the chapel of Holyrood Palace—not masonry, however, but wainscoting. It cost £450, and probably included carving. That it was well appreciated is evident from his own words—"£50 was given to drink, whar of I had £20 given to me by the King's command." The chapel is now in ruins and the work probably destroyed.

In 1619 Stone was appointed Master Mason on charge of the erection of the Banqueting House, Whitehall, under Inigo Jones, whom he calls "the ofisor of His Majesties workes." This occupied him for three years, his pay being 4s. 10d. a day during the first two years, but dropping to 3s. 10d. a day in the third year. Stone's relations with Inigo Jones remain obscure, but it seems certain that from 1619 onwards they must have been in frequent collaboration, the one as Surveyor General and the other as Master Mason, not only at Whitehall, but at St. James's, where Stone is reputed to have been connected with the erection of the chapel, St. Paul's Cathedral, Somerset House, and other Royal or public buildings. Whether their relations were merely official and not personal is not clear, but a closer intimacy later, during the civil wars, must surely have dictated their joint burial of their united stock of ready money in Scotland, whence on an order being promulgated to reward informers with half their discoveries, and four persons showing the place of hiding, the money was taken up and reburied in Lambeth Marsh. Whether saved, and eventually recovered, is not related.

Between 1616 and 1625, when James I. died, Stone was busy, in addition to his official work, with some sixteen or eighteen monuments of various celebrities. In 1626, soon after the accession of Charles I., Stone was made "Master Mason and Architect for all our buildings and reparations within our house and castle of Windsor," for life, the wages being twelve pence per diem, with other allowances. In 1631 Inigo Jones was commissioned to undertake the repairs of St. Paul's Cathedral, and in 1633 his well-known Ionic portico at the west end was commenced. Although Stone makes no mention thereof, Charles Stoakes says that he built it—"Mr. Inigo Jones and his desine and Mr. Stone's care in performing the worke." In 1632 Stone was instructed to examine some defective portion of the foundations of the cathedral in conjunction with Edmond Kinsman. They could hardly have been very

serious defects, as the estimate for the work was only £8.

A long list of other monuments extends down to the year 1640, when Stone fell ill of a fever for twelve weeks. Possibly he never fully recovered, as no entries are found in his book later than 1642, and no further information concerning him or his work except the record of his death on August 24, 1647, and his burial in his parish church of St. Martin-in-the-Fields on August 28.

Forty-nine excellent illustrations of Stone's works are given, together with his will, and, as an appendix, the diary of his son Nicholas Stone, junior, extending from 1638 to 1642.

Our Illustrations.

ENTRANCE GATES, CLIVEDEN, BUCKS.

These wrought-iron Gates were designed by Mr. Frank L. Pearson, F.R.I.B.A., and carried out under his direction by Messrs. Singer, of Frome.

SALISBURY CATHEDRAL SILVER PROCESSIONAL CROSS.

This Cross was presented to the cathedral at Easter by the Precentor—the Ven. Archdeacon Carpenter—and Mrs. Carpenter, in memory of their son, who fell in France, September 15, 1915. It was designed by Mr. C. E. Ponting, F.S.A., of Marlborough, and has been made by Messrs. Blunt and Wray, of Kilburn—a work which was extended over two years, owing to the difficulties in getting such work done; it is, therefore, in every way a War Memorial. The core of the cross is of lancewood, and all the metal is sterling silver. The ornamentation is characteristic of the work of the cathedral, 1220-1331.

"THE HOLLIES," ENFIELD, MIDDLESEX.

This is a house erected during the war, being contrived to save labour, and everything kept very simple. The site was somewhat restricted, so that the one-storied outbuilding is arranged running in the direction of the garden, but this helps as a shelter from the colder winds, and the drawing shows it utilised as a loggia where it faces the garden. The house is covered with tile-hanging over the upper portion, and is plastered below, giving a cheerful effect of colour which harmonises well with the rural surroundings, the roof being of sand-faced tiles. The little ornamental Garden is formed near the windows with stone-flagged paths, and beyond is the lawn and small orchard. Messrs. Hart and Waterhouse, of Gray's Inn, W.C., are the architects.

FEMALE LOCK HOSPITAL, HARROW ROAD, N.W.

SELECTED DESIGN.

Our series of drawings given in illustration of these new extensions, designed by Mr. Alfred Saxon Snell, F.R.I.B.A., began in the issue for April 23 last, including the lay-out plan and details of the Maternity and General Wards. We reviewed the competition in THE BUILDING NEWS for November 18, 1918. To-day two sheets are printed from the adopted geometrical drawings of the new Isolation Block for nurses and patients; also the laundry building and boiler-house, as well as the plans and elevations of the "Out-Patients' Department." All these three premises are entirely new. The last-named block is placed close to the entrance gates, well apart from the main hospital buildings, so that its administration and conveniences are independent and easily

worked. The contrivance of the Out-Patients' Department is cleverly arranged and admirably adapted to its purpose, furnishing an exceedingly compact and up-to-date scheme of a workable and utilitarian character. The dimensions are figured on the plans copied from the selected drawings in the competition, when Mr. Percy Adams acted as the architectural assessor. Another sheet of illustrations will appear shortly as soon as space will allow.

HOT MIX ASPHALT PAVEMENTS.

By FRANCIS P. SMITH, Ph.B.*

In pavements of this kind both the mineral aggregate and the bituminous cementing material are first heated, and while hot, are then mixed together. They differ from the so-called penetration type of pavement, in which cold stone in place on the road is given a surface application of hot bituminous binder, by having a better graded mineral aggregate and a far better and more uniform coating of bitumen on the mineral particles.

Bituminous pavements differ from each other chiefly in the size and kind of the mineral aggregate, the bituminous cement or binder being substantially the same in each case.

Depending upon the size of the mineral aggregate used, bituminous mixtures may be considered as bituminous mortars or bituminous concrete differing from ordinary mortars and concretes, in having a cementing material which is plastic and which may be classed as a semi-fluid or a semi-solid. For this reason greater care must be taken in the grading of the mineral aggregate, in order to ensure the requisite amount of stability, than if a rigid cementing material were employed.

IDEAL SURFACE FOR MIXED TRAFFIC.

It is generally conceded that the ideal surface for mixed traffic is one which is slightly malleable (approaching sheet lead in this respect), as this will minimise wear and noise. A pavement which is too soft and mobile will be objectionable as it will rut and displace easily, and offer too great resistance to tractive effort. Too hard a pavement will be noisy and, unless it is very tough, will wear away rapidly, and if monolithic, will be liable to more or less rapid disintegration through expansion or contraction. If jointed, to overcome this, continuity of surface and smoothness of riding is lessened and disintegration at the joints is liable to occur. Malleability precludes extreme rigidity, hence a malleable pavement will be low in bridging strength and will require a rigid foundation. The ideal pavement would, therefore, appear to be one in which the foundation and wearing surface were separate and composed of materials differing very widely in their properties, and provision should be made for renewing the wearing surface when necessary without disturbing the foundations. All bituminous pavements are to a certain extent malleable and yielding, thus minimising the wear of the mineral particles and making them more acceptable to horse drawn traffic. In summer these qualities are more noticeable than in winter, for at very low temperatures the asphaltic binder becomes practically rigid. Bituminous pavements, especially those with fine mineral aggregates, are smooth, non-absorbent and easy to clean. They are capable of sustaining very heavy traffic and also last well under light traffic. They are therefore well adapted for business and residence streets, and the facility with which they may be kept clean makes them especially desirable in tenement districts. They are easy to repair without disturbing the base and offer but slight resistance to traffic. When dry and clean they are not slippery and their slipperiness in moist or drizzly weather is largely due to the presence of a thin film of mud caused by the collection of street detritus, and this can be greatly reduced by washing or keeping them clean. For

this reason they are less slippery in a heavy rain than in a drizzle. The size of the mineral aggregate determines the character of the surface, i.e., whether rough or smooth, and from the wide variety of them it is almost always possible to select one type which will satisfactorily meet any given set of climatic and traffic conditions. Bituminous pavements therefore come nearer to being the universal and ideal type of pavement than any other which has yet been devised by man.

The very desirable quality of flexibility possessed by bituminous pavements makes it necessary to provide a stable foundation. If the foundation is unstable and sinks after the pavement has been put down, the pavement will gradually sink with the foundation, thus forming a depression in which water will collect and eventually destroy it. The wheels of vehicles passing over such depressions will drop into them, the force of the blow depending upon the weight of the load and its speed, and this will still further exaggerate the depression by forcing up a portion of the pavement immediately in front of it. It will also set up a vibration in the springs of the vehicle which will cause successive blows to be dealt to the pavement until the spring vibration returns to the normal. This action, especially in commercial vehicles, where the springs are short and stiff, results sooner or later in wave formation which is unpleasant to ride over and which, when it once sets in to any considerable extent, rapidly increases until it becomes necessary to resurface the street or road. The same effect will be produced on a rigid foundation when the bituminous pavement is lacking in stability, due to a poorly graded mineral aggregate, too soft or too much bituminous cement, or a combination of these.

The character of the foundation required will depend upon the traffic, climate, character of subsoil and drainage conditions. The heavier the traffic the stronger must the foundation be. In cold climates where the ground freezes to considerable depth in winter, he spring thaws produce a very unstable condition of the subsoil and in such cases the foundation must be stronger than is required in climates where there is little or no frost. A well drained sandy soil is much less affected by these temperature changes than is a heavy clayey soil. In all foundations, drainage is by far the most important single consideration. With adequate drainage, a much thinner foundation can be laid than where it is absent or imperfect and the cost of proper drainage is often far less than the added cost of an adequate foundation on imperfectly drained ground.

A number of different types of foundations have been successfully employed, such as old macadam or Telford; broken stone rolled dry or cemented together with some form of bituminous cement; old cobblestone, Belgian block or granite sett pavements; old brick or asphalt block pavements; bituminous concrete; natural cement and Portland cement concrete.

OLD FOUNDATIONS PROVE USEFUL.

Where the traffic is light, as on country roads which are not main arteries from or between large cities and in some residential streets, old macadam or telford roads have proved to be suitable foundations for bituminous surface mixtures. In the opinion of the speaker, telford is preferable to macadam owing to the fact that the larger stones composing its base have a partial slab effect, and therefore resist more strongly any pressure tending to displace them or to force them into the subsoil. In some cases, notably the Thames Embankment in London, a macadam foundation covered with an asphalt pavement has successfully carried heavy traffic, but the layer of stone has been built up during many years and is very thick, and the drainage is nearly perfect. Under very severe conditions the use of macadam or telford as a foundation for bituminous pavements is to be deprecated, and more failures than successes have resulted from it.

Many roads are classified as macadam which contain no base course of large stone, and are in reality old dirt roads which have never been properly drained, and on which

fine stone has been dumped and consolidated by traffic. Before using any macadam road as a foundation, its history, and more particularly its condition in the spring of the year, should be investigated. A sufficient number of test holes should be put down to determine the character and depth of the stone, and provision made for proper under and side drainage. It will usually be necessary to rebuild the road in a number of places, and in most instances the crown must be reduced. Wherever possible, this should be done by filling up the depressions and building up the shoulders. Traffic will compact a road far better than will a roller, and a road surface which has been scarified and rolled will not be as hard and firm as one which has been compacted by years of traffic. Where depressions are to be filled or shoulders are to be raised, the roadbed should be cleaned and slightly loosened to ensure proper bonding of the new stone which should be of the same size as would be employed in building up the corresponding portion of a new macadam road. It should be thoroughly wetted and rolled with a 10-ton road roller, with the addition of sufficient screenings, until vehicles passing over it do not cause displacement. Unless this work is thoroughly and conscientiously done, the foundation will not be of uniform strength throughout, and settlements will occur where the new stone was put. If it is necessary to scarify the road surface, this should be done to the minimum possible depth, after which the surface should be built up exactly as if constructing a new macadam road, and rolled until the utmost compaction is obtained. Wherever possible, traffic should then be turned upon the road for a few months to develop any weak spots in it, and to secure still better compaction.

Old pavements of brick, granite, etc., should not be used as a base if it is necessary to re-set them. In their original condition they are satisfactory if the traffic is not too heavy. Relaid blocks, until bedded by traffic, are not rigid, and have a tendency to rock, and asphalt pavements laid on such foundations in New York City have rapidly disintegrated wherever they were exposed to heavy traffic.

BITUMINOUS CONCRETE AS A FOUNDATION.

Bituminous concrete is sometimes employed as a foundation. One of the best types of it is made of run of the crusher stone from 2 in. down to dust, so graded and mixed with sufficient sand as to make a fairly dense and rigid mixture carrying about six per cent. of asphalt cement. When this is kept clean and the wearing surface laid upon it at once, no binder course is necessary. It has less bridging strength than Portland cement concrete and should only be laid on firm, well drained subgrade, and is not suitable for very heavy traffic. It is usually laid from 4 to 6 inches thick. It has a number of advantages over Portland cement concrete. It is very slightly subject to expansion and contraction cracks, and the overlying bituminous wearing surface if properly laid adheres to it very strongly, increasing its resistance to displacement under traffic. It is also water-repellent and underlying moisture will not be sucked up through its pores and attack the bottom of the wearing surface. This is a frequent and serious cause of disintegration of bituminous pavements laid on Portland cement concrete foundations, where through imperfect drainage or unavoidable conditions the ground water level or layer of permanently water-saturated earth lies close to the top of the subgrade.

Portland cement concrete foundations vary according to conditions from 4 to 9 inches in depth, and in every case before laying them the subsoil should be thoroughly compacted and drained. In certain localities in the north-western portion of the United States and Canada, very heavy clay soils are found, which in winter frequently develop cracks 4 to 5 inches in width and heave very badly. In such cases cross trenches should be dug every twenty-five or thirty feet, and filled with coarse broken stone and connected with longitudinal trenches at the side of the street, similarly filled and draining to catch basins. Concrete should not be laid directly on such a soil. Sand or gravel

* Consulting Engineer, New York City; read before Canadian Good Roads Congress.

should first be spread upon it to such a depth that when rolled it will form a layer 3 to 4 inches in thickness, and the concrete should be placed on this. Under rapid temperature changes cement concrete foundations are liable to crack. When the cracks are large, the overlying bituminous wearing surface frequently cracks in or near the same place. Where the foundation cracks are small, the wearing surface is usually not affected by them. Rich, dense concretes are more liable to crack than leaner mixtures, and the speaker advocates for foundation work a monolithic structure composed of a rather lean mixture, not richer than 1 : 3 : 5. Transverse expansion joints in the concrete are not altogether satisfactory as cracks in the pavement are liable to occur over them, and if the joints are filled with a bituminous filler, cut off flush with the top of the concrete; this filler is frequently shoved up through the top of the wearing surface. If the filler is cut off about 1 inch below the surface of the concrete, it will not be forced through the pavement, but the joints at best create an area of concentrated stress in that portion of the pavement immediately overlying them, which tends to rupture it. In addition to a lean concrete, the obvious remedy is to thoroughly drain the subgrade.

Having briefly considered the questions of foundation and subgrade, we now pass to the wearing surface. This is composed of mineral aggregate and bituminous binder. The mineral aggregate constitutes from 80 to 90 per cent. of the pavement, and takes practically all the wear resulting from traffic. It must therefore be selected with great care. It must be hard enough to carry the traffic; it must have clean grains or particles to ensure the bitumen adhering to them, and these grains or particles must be graded from coarse to fine so as to make a pavement of the maximum density, with the smallest sized voids obtainable and with sufficient inherent stability to resist displacement under the shoving action of traffic. The surfaces of the grains or particles must be of such a character that the bituminous cement will adhere satisfactorily to them. Earth, sand, gravel, broken stone or slag, and finely ground limestone or Portland cement or combination of them, are the materials used in the type of pavements under discussion.

THE VARIOUS MATERIALS.

Earth.—This is used in a special type of pavement which has been developed within the past five years. It should be of such fineness that at least 50 per cent. of it will pass a 200-mesh sieve, and it should contain from 15 to 70 per cent. of clay, depending upon its character. This material requires a special kind of plant to handle it.

Sand should be clean grained, hard, and moderately sharp. The grains should be chiefly quartz and should have rough pitted surfaces. Where necessary, the proper grading of the different sized grains must be obtained by mixing several sands or in certain cases by the addition of unweathered crusher screenings. When using the ordinary type of bituminous mixing plants the presence of clay is undesirable, either as a coating to the grains or disseminated throughout the mass. For medium or heavy traffic pavements all particles retained on a 10-mesh screen should be discarded. For light traffic, 3 to 5 per cent. of 8-mesh particles can be incorporated in the pavement with advantage or broken stone of the sizes and in the amounts described under "Topeka Mixture." Sands containing a large amount of flinty grains should be avoided as bitumen does not adhere well to flint.

Gravel should be clean grained, hard and free from adhering clayey particles. It is lacking in stability owing to its roundness, and is usually considerably improved by passing it through a crusher. Gravel with a rough pitted surface is to be preferred, and gravel containing a large percentage of flinty particles is to be avoided. It is unsuitable for the construction of pavements carrying heavy traffic and inferior in all respects to crushed stone.

Broken stone should be freshly crushed, preferably in cubical shaped particles. The

size and hardness required depend upon the traffic which the pavement is to carry. Dense hard limestone will carry medium and light traffic satisfactorily. Where the traffic, even though comparatively light in volume, is composed of heavy iron-tired units, a dense hard trap is required. Trap is now commonly used in the manufacture of asphalt block, although in the past a large number of asphalt blocks made from limestone gave excellent service under light traffic. Granite is not usually satisfactory, as it is too coarse and uneven in texture and much of it is friable, and it is liable to shatter in crushing. Mesh composition or grading of the various sized particles is just as important as with sand. It is not suitable for use in pavements carrying very heavy traffic.

Slag.—Hard, dense basic slag is to be preferred. It should be stable when exposed to the weather, and not show any tendency to slack or disintegrate. It is only suitable for light traffic, and should preferably be coated with a very fluid bitumen.

Filler.—This should be finely ground limestone or Portland cement, the latter being preferable for mixtures designed to carry extremely heavy traffic. For light traffic the speaker prefers the limestone dust, as it does not have such a marked drying effect. Whichever is used, it should be ground so that at least 65 per cent. of it will pass a 200-mesh sieve. Pulverised clay also makes an excellent filler, but is difficult to handle owing to its tendency to ball and cake if it becomes the least bit damp.

Bituminous binder, or asphalt cement, as it is termed in the sheet asphalt industry, must possess such properties that it will firmly bind together the mineral particles and resist the disintegrating action of traffic and the elements. The necessary tests for determining whether or not it is possessed of these properties are fairly well standardised, and are embodied in most standard specifications. The time allotted the speaker will not permit a detailed discussion of them. The consistency of the bituminous binder varies somewhat with the type of mineral aggregate, but otherwise its general characteristics are about the same for all types of the pavements under discussion.

THE MANUFACTURING PLANT.

The plant used in the manufacture of the paving mixture is a very important element in the success of the pavement. The standard type of plant first developed in the sheet asphalt industry has for a long time been recognised as the best for the purpose. In it the sand or stone, or both, are heated in revolving driers and fed by means of elevators into a storage bin. The bituminous cement is heated in properly designed melting kettles.

Measured or weighed (preferably the latter) amounts of the various ingredients are then mixed together in a twin shaft mixer of the pug-mill type. This mixer should have a speed of from 65 to 85 revolutions per minute, and for ordinary work each batch should receive a full minute's mixing. Where the service conditions are very severe it may be necessary to increase the time allowed for mixing, and also to raise the temperature at which the mixing is done, in order to ensure a thorough coating of the surface of all particles with a firmly adherent film of bituminous cement. Great care must always be taken not to overheat either the mineral aggregate or the bituminous cement, as this will injure and harden the latter. Too low a heat will result in imperfect coating of the mineral particles. Certain asphalts are fluid at much lower temperatures than others, and certain asphalts are very readily injured by over-heating, while others are not.

Plants of the concrete mixer type, in which the heating and mixing are done in one revolving chamber, are not to be recommended. As usually arranged, they are inefficient mixers, and are liable to burn the bituminous cement if the flame is permitted to come in contact with it. The only way to avoid this source of danger is to heat the bitumen and the mineral aggregate separately, and not to heat them in any way during the mixing process.

In the type of plant which we have been

considering, clay or clayey particles are objectionable, owing to the fact that they either become partly baked on the grains of sand or pieces of stone or form into lumps, which do not detach themselves or break up under the action of the mixer blades. This prevents the bitumen from adhering to the grains or else results in coating the outside only of the clay balls. Under traffic these balls break up and the bitumen becomes detached from the coated grains, tending toward more or less rapid deterioration of the pavement.

In plants used for constructing pavements made of pulverised earth the grains, after heating, are subjected to pulverisation, which breaks up any clay balls which may have been formed, and which cleans the sand grains or small stone particles. Owing to the large percentage of water which clayey earths are liable to contain (three to five times as much as ordinary sand), these plants must have a much larger drier than ordinary sheet asphalt plants, and they must be provided with a pulverising device. The extreme fineness of the mineral matter necessitates a completely enclosed mixer box and special dust-collecting device.

FOUR DISTINCT TYPES.

Out of the raw materials which we have discussed, four distinct types of hot mix pavement are laid. They are as follows:—

Sheet asphalt, in which the mineral aggregate contains no particles which would be retained on a $\frac{1}{4}$ -inch screen.

Topeka pavements, which usually consist of a standard sheet asphalt mixture to which has been added from 15 to 25 per cent. of stone passing a $\frac{1}{4}$ -inch screen and retained on a 10-mesh screen and approximately 10 per cent. of stone passing a $\frac{1}{2}$ -inch screen and retained on a $\frac{1}{4}$ -inch screen.

Bituminous Concrete Pavements (Bitulithic, Warrenite, etc.)—having a mineral aggregate consisting largely or wholly of stone of varying sizes from $\frac{1}{2}$ -inches down.

Pulverised Earth Pavements (National Pavement)—having a mineral aggregate composed wholly of pulverised clayey earth of such fineness that at least 50 per cent. of it will pass a 200-mesh sieve.

The following are typical analyses of the foregoing types of pavements:—

	Sheet Asphalt.		Topeka Mixture.	Bituminous Concrete.	Pulverised Earth Pavement.
	Light Traffic.	Heavy Traffic.			
Bitumen, mesh.	11.0	10.5	8.5	7.0	17.5
200	14.0	10.5	8.5	5.0	55.5
100	14.0	10.0	6.0	4.0	12.0
80	13.0	10.0	6.0	2.0	6.0
50	19.0	14.0	6.0	5.0	5.0
40	11.0	14.0	10.0	4.0	3.0
30	10.0	13.0	10.0	4.0	1.9
20	5.0	10.0	9.0	3.0	—
10	3.0	8.0	6.0	5.0	—
8	—	—	6.0	3.0	—
4	—	—	14.0	7.0	—
2	—	—	10.0	20.0	—
$\frac{1}{2}$	—	—	—	14.0	—
1	—	—	—	12.0	—
$\frac{1}{4}$	—	—	—	5.0	—
	100.0	100.0	100.0	100.0	100.0

Sheet asphalt will sustain a very heavy traffic. This statement applies more especially to a traffic largely composed of quick moving, light to medium loaded vehicles. It will not give satisfaction where there is practically a total absence of traffic, as it then is liable to develop cracks, apparently requiring the kneading action of traffic to equalise the stresses set up by contraction and expansion and to keep it in proper condition. It is entirely suitable, however, for traffic varying from the light delivery traffic of residence streets to the dense but quick moving traffic of Fifth Avenue, New York, or the Thames Embankment, London.

EXAMINE GRADES.

On account of their smoothness, sheet asphalt pavements are not suitable for use on excessive grades. Generally speaking, streets carrying a fair amount of traffic can be paved with asphalt if the grade does not exceed 6 per cent. In some cases where

the traffic was very light and a smooth pavement was considered essential, it has been laid on grades running up to 10 per cent and 12 per cent, but this is rather exceptional. Where the traffic is heavy, a 3 per cent. to 4 per cent. grade is usually considered as the limit. In most of the largest cities of the United States the maximum grades, on which this type of pavement is laid vary from $4\frac{1}{2}$ per cent. to 3 per cent., regulated largely by the traffic and climatic conditions.

Generally speaking, the heavier the traffic, especially iron-tired traffic, the finer should be the mineral aggregate used, owing to the fact that the coarse particles are more liable to fracture than the smaller particles. Where fracture takes place to any considerable extent, rapid deterioration of the pavement will ensue, as the bituminous cement ordinarily used is not sufficiently fluid at atmospheric temperatures to re-bond and re-coat the fractured particles, and these will quickly be pulverised and washed out, leaving depressions where water will accumulate and eventually rot the pavement. Where the traffic, even though heavy, is largely or wholly composed of rubber-tired vehicles, a greater proportion of coarse particles is permissible and desirable. In proper proportions they add greatly to the stability of the pavement, and under the conditions stated the light traffic mixture given in the table would be entirely suitable if the bitumen was increased to, say, 11 per cent.

STANDARD CONSTRUCTION.

The standard sheet asphalt construction of the present day is $1\frac{1}{2}$ inches of binder and $1\frac{1}{2}$ inches of wearing surface. The binder should be of the "close" type—i.e., should contain approximately 20 per cent. of material passing an 8 mesh sieve, and approximately 15 per cent. each of $\frac{1}{4}$ inch and $\frac{1}{2}$ inch stone.

A close binder, properly made and laid, will be superior in many respects to the mixtures which have been laid on a large number of country highways, and will carry a fair amount of traffic for a considerable time without suffering any serious damage. Poor binder will break up very easily—sometimes it can be kicked up—and the hauling of the hot surface mixture over it will damage it very seriously. Surface mixture laid on a binder of this kind which has been badly broken up might almost as well be laid on loose broken stone, and will not give satisfactory service under heavy traffic. The binder should, of course, be thoroughly compressed with a steam roller before laying the wearing surface on it. Lack of compression will produce an unsatisfactory foundation for the wearing surface, and binder which is too cold or made with too hard an asphalt cement or an insufficient quantity of asphalt cement cannot be properly compressed into a dense, tough mass. In hauling the binder to the street over long distances or in very cold weather, it may become chilled below the danger point. During the hauling process a certain amount of surplus asphalt cement usually drains off of the stone and accumulates on the bottom of the cart or wagon. If these excessively rich portions be laid on the street, what are called rich or fat spots in the binder course will be produced. As the name implies, these are places carrying an excess of asphalt cement. If these are permitted to remain, the surplus asphalt cement will be absorbed by the hot surface mixture when it is placed over them. This will make a soft spot in the finished pavement, which will be displaced by traffic and eventually produce a hole or depression in the pavement. They should, therefore, be cut out and replaced with normal binder.

Before laying the surface mixture on the finished binder course the latter should be dry and swept clean of dirt; otherwise the layer of wearing surface will not adhere properly to it. Binder should be covered with surface mixture as soon as practicable after laying it. In many large cities it is required that all binder laid should be covered the same day with surface mixture.

SPREADING THE MIXTURE.

When delivered upon the street the surface mixture should be of such a temperature that it can be properly compressed and should be evenly spread by means of hot-iron rakes. In many cases the loads of hot surface mixture are dumped directly upon the spot over which they are to be spread. This is bad practice, as the men trample upon it while shovelling and raking it, and the rakes do not thoroughly loosen up this trampled material when passing over and through it. Although the mixture is raked to a uniform surface and apparently even thickness before it is rolled, those portions which have been trampled on before and during raking are really covered with a greater quantity of surface mixture than those portions which have not been trampled on and which are covered wholly with what might be termed loose or fluffy mixture. When the roller has completed its work there will, therefore, be a slight unevenness in the finished surface. Under light traffic this would make no appreciable difference, but under very heavy traffic the slight pounding action resulting from this condition would be detrimental and lead to uneven wear of the pavement. Proper and thorough compression of the finished mixture is very essential, as this produces a pavement which in its earliest stages is fit to sustain the heaviest traffic. It is always questionable whether portions which are very lacking in compression will be ground out or eventually consolidated. Under unfavourable conditions the chances are strongly in favour of their being ground out. In those portions of the pavement which are inaccessible to the roller, compression is effected by the use of hot smoothers or tampers, or both. If properly handled, the desired results will be obtained, but if used too hot they will burn the pavement and cause it to scale or grind out. Hot smoothers particularly are dangerous tools to put in the hands of incompetent or careless workmen.

MAKING JOINTS.

Extreme care should be taken to insure a proper union between the surface laid on successive days. The first loads laid in the morning at the point of termination of the previous day's work should be a little hotter than normal so that the hot mixture may soften the cold edge of the pavement and bond perfectly to it. The joint should be bevelled and freshly cut away unless the rope joint or a similar method is employed.

The practice of painting the edge of the joint with hot asphalt cement is not to be recommended, as unless extreme care is exercised, too much asphalt cement will be used and that portion of the pavement will be too rich in bitumen and consequently softer than the rest, which will result in uneven wear and possibly shoving. Great care should be taken not to leave any bump or depression where the joint is made.

Topeka Mixture pavements are laid from two to three inches thick and are frequently placed directly on the foundation. Much better results are obtained by using a binder course one and one-half inches thick next to the foundation with a one and one-half or two inch wearing surface. This greatly reduces the tendency of the finished pavement to shove. With a well-graded mixture a squeegee coat is unnecessary although it is frequently employed.

The mineral aggregate as fed to the drier consists of a mixture of broken stone and sand which is liable to segregate in the bin. The hot aggregate should, therefore, be screened and separated into two sizes and kept in separate bins. Definite amounts of coarse and fine material should be weighed into each batch. Unless these precautions are observed, portions of the pavement will have an excess of coarse material and vice versa, and the normal bitumen contents for an average mixture will be too rich for the coarse portion and too lean for the fine portion.

The bitumen content of these mixtures is somewhat lower than for sheet asphalt, and must be very closely watched and kept within much closer limits than are necessary with sheet asphalt mixtures. One-half per cent. above or below normal is about the permissible

variation. Too little bitumen will make a pavement which is too open and porous and too much bitumen will render the pavement very liable to shoving.

SUBSTANTIALLY SAME AS SHEET ASPHALT.

The general methods of manufacturing and laying and the precautions to be observed are substantially the same as for sheet asphalt. The surface of pavements of this type is somewhat rougher than sheet asphalt, thence they can be laid on somewhat steeper grades. They will normally carry a somewhat heavier iron-tired traffic than the coarser bituminous mixtures, but not as heavy a traffic as sheet asphalt. Unless laid under very rigid and competent inspection, it is far safer to use sheet asphalt.

Bituminous concrete pavements, as previously noted, have a mineral aggregate consisting wholly or largely of stone of varying sizes from $1\frac{1}{2}$ inches down. Some of them are made of run of the crusher stone and some of them (Bitulithic, etc.) are made of carefully graded aggregates. Where the aggregates are graded it is customary to separate the different sized particles in from three to five bins and weigh out definite amounts from each bin for every batch. The normal bitumen content is lower than in Topeka mixture. An excess of bitumen will affect them in much the same way as a Topeka, but to a smaller extent. From two to three inches of the surface mixture are usually laid directly on the foundation. It is very difficult to completely close up such a mixture by rolling. It is usually therefore given a squeegee coat of hot bituminous cement, after which stone chips are spread over the surface and rolled in the excess being left to be ground away by traffic.

THE RETIREMENT OF MR. W. E. RILEY.

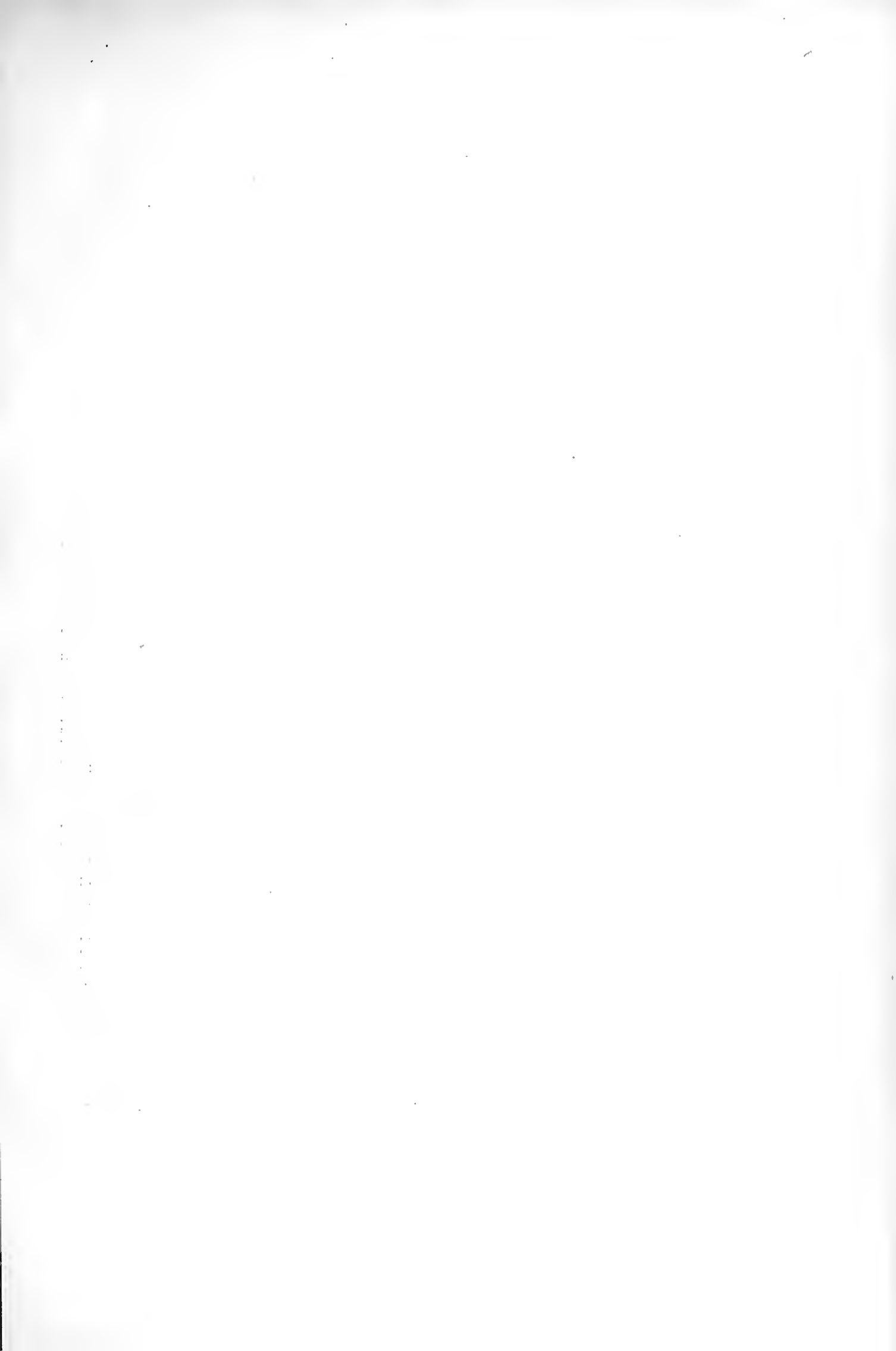
His many friends will be glad to read the kindly tribute our contemporary the *Manchester Guardian*, in its issue of Thursday last, pays to the Superintending Architect of the London County Council, anticipatory of his approaching retirement.

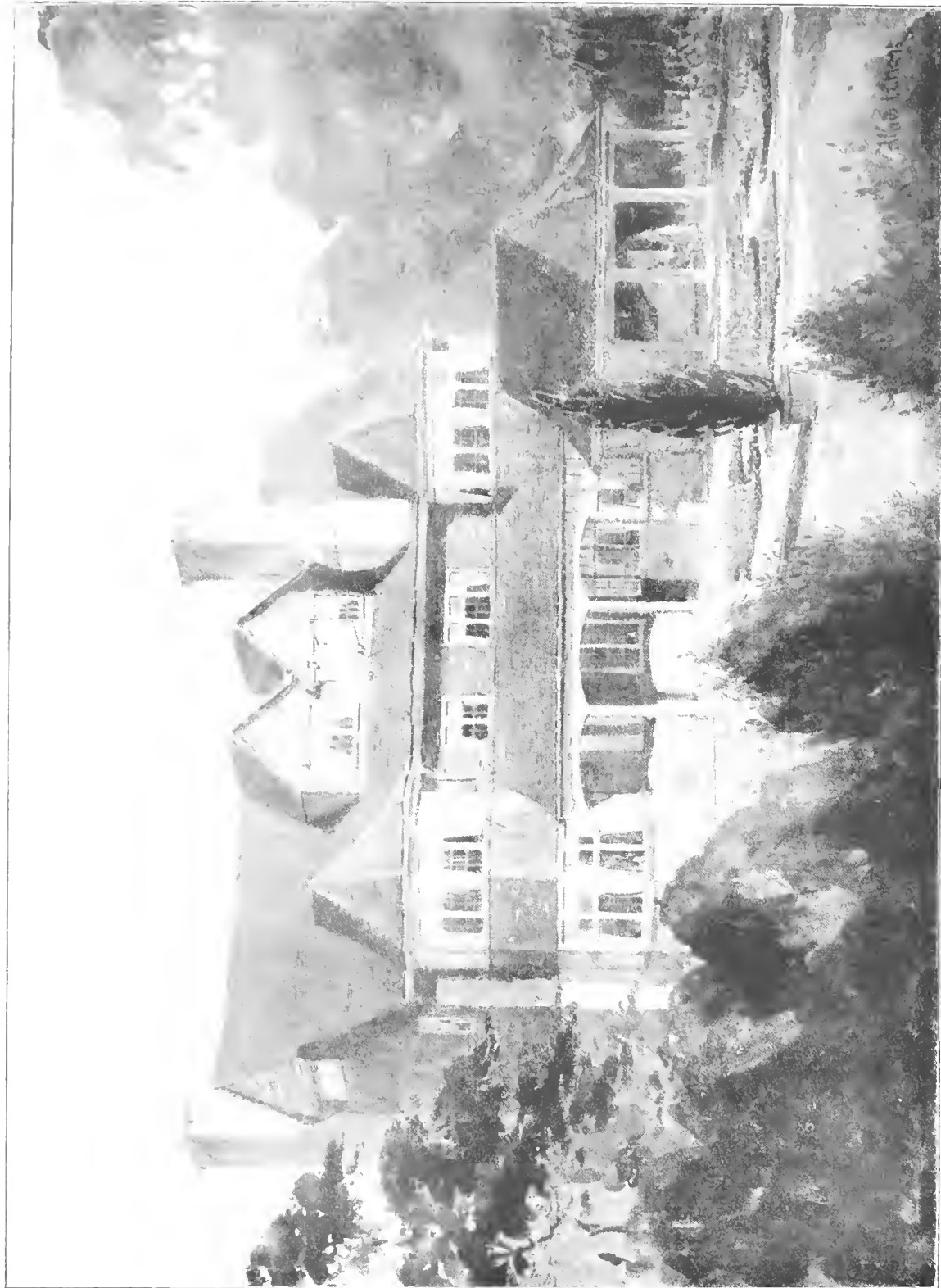
"During his term of office he has perused thousands of plans prepared by eminent London architects, checked calculations, modified risky proposals, and censored designs that attempted to evade the regulations of the Building Act. Add to this the supervising of the Council's architectural department, involving the preparation of countless housing schemes, designs for fire stations, schools, tramway shelters, and a big share in the arrangement of the County Hall at Westminster, together with the rendering of the periodical reports to the Council, and some idea of the labours of an architect in his position may be gleaned. Only a man of exceptional mental and physical power could stand the strain.

"Mr. Riley, before he was appointed Architect to the Council, was engaged on Admiralty work, and was connected with some large undertakings at Malta. He is a man of constructive genius with a gift for mathematics—a trait noted by many trembling assistants who underwent an interview with him before being taken on the staff at Spring Gardens. He was responsible for the alterations of the river façade of the new County Hall, and he is credited with asking the architect to the building to provide for 'a glorious confusion of columns.'

"Architecture evolved under the impulse of officialdom is frequently lacking in individuality, but this is not the case with the buildings produced under the watchful eyes of the present superintending architect. Efficiency combined with good taste, thorough organisation, and a well-trained staff has produced excellent contributions to London's architecture. It has come rather as a shock to his many personal friends that Mr. Riley is about to retire."

The Marshland R.D.C. have decided to negotiate for land for the erection of houses. Plans for district No. 2, submitted by Mr. Eagleton, of Lynn, have been approved. Mr. F. B. Ward, of Wisbech, is the architect for the No. 1 district.



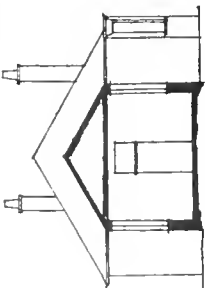


"THE HOLLINS," ENFIELD, MIDDLESEX; GARDEN FRONT.
Messrs. HART and WATERHOUSE, Architects.

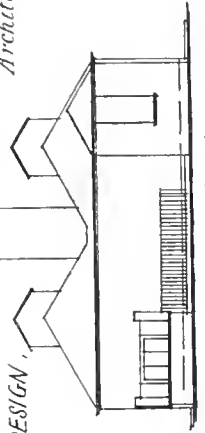
FEMALE LOCK HOSPITAL HARROW? N.W. NEW EXTENSIONS.

Alfred Saxon Snell F.R.I.B.A.
Architect

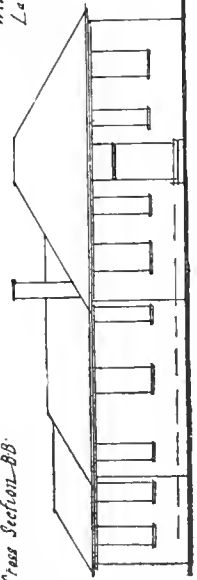
SELECTED DESIGN.



North Elevation of Laundry Block



West Elevation of Laundry Block



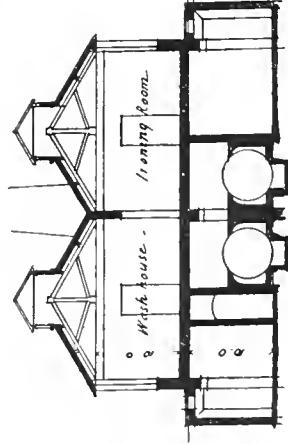
North Elevation of Isolation Block

East Elevation

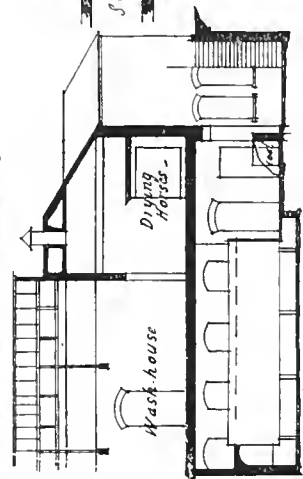


Plan of Isolation Block

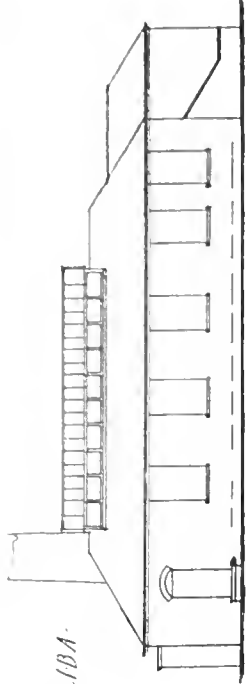
10' 0" 20' 0" 30' 0" 40' 0" 50' 0" 60' 0" 70' 0" 80' 0" 90' 0" 100' 0"



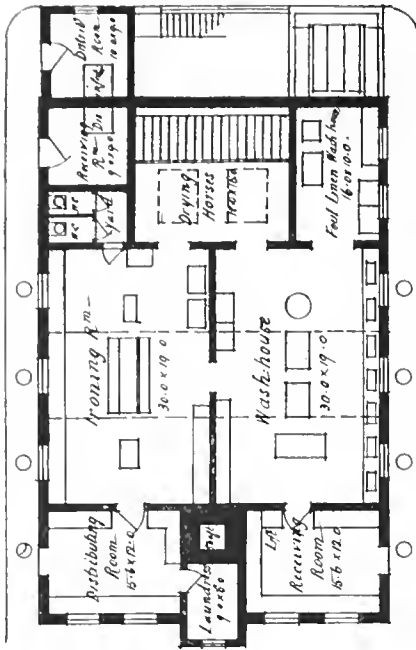
Cross Section thru Laundry Block



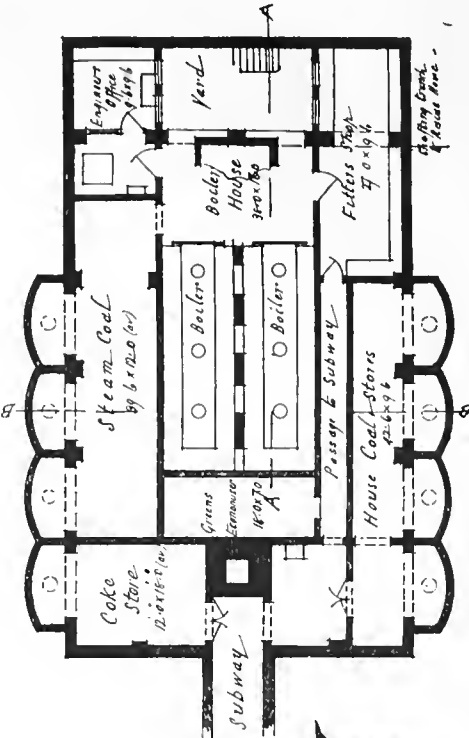
Section thru Laundry Block



North Elevation of Laundry Block



Laundry Block Ground Plan



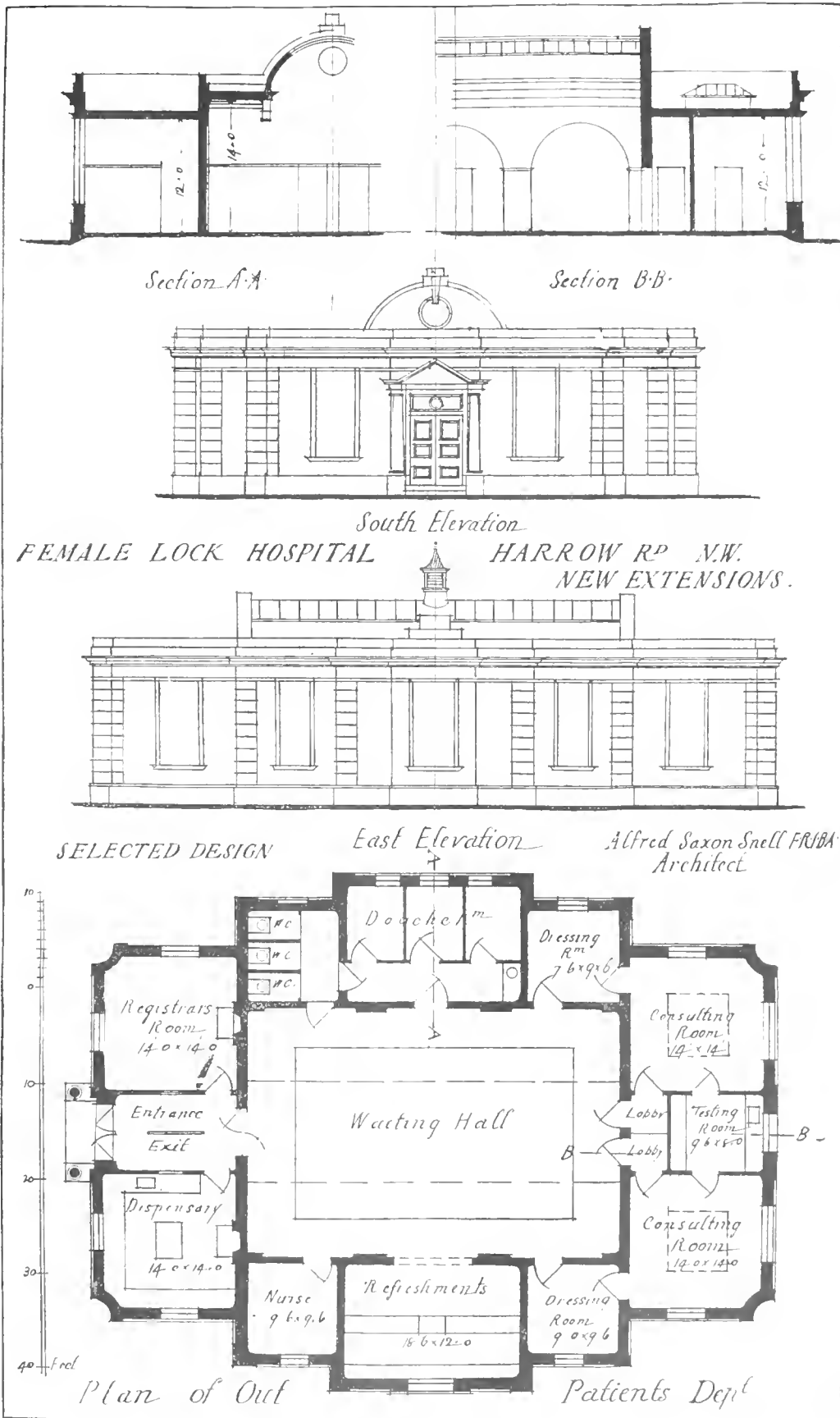


ENTRANCE GATES, CLIVEDEN, BUCKINGHAMSHIRE

JULY 2, 1919.

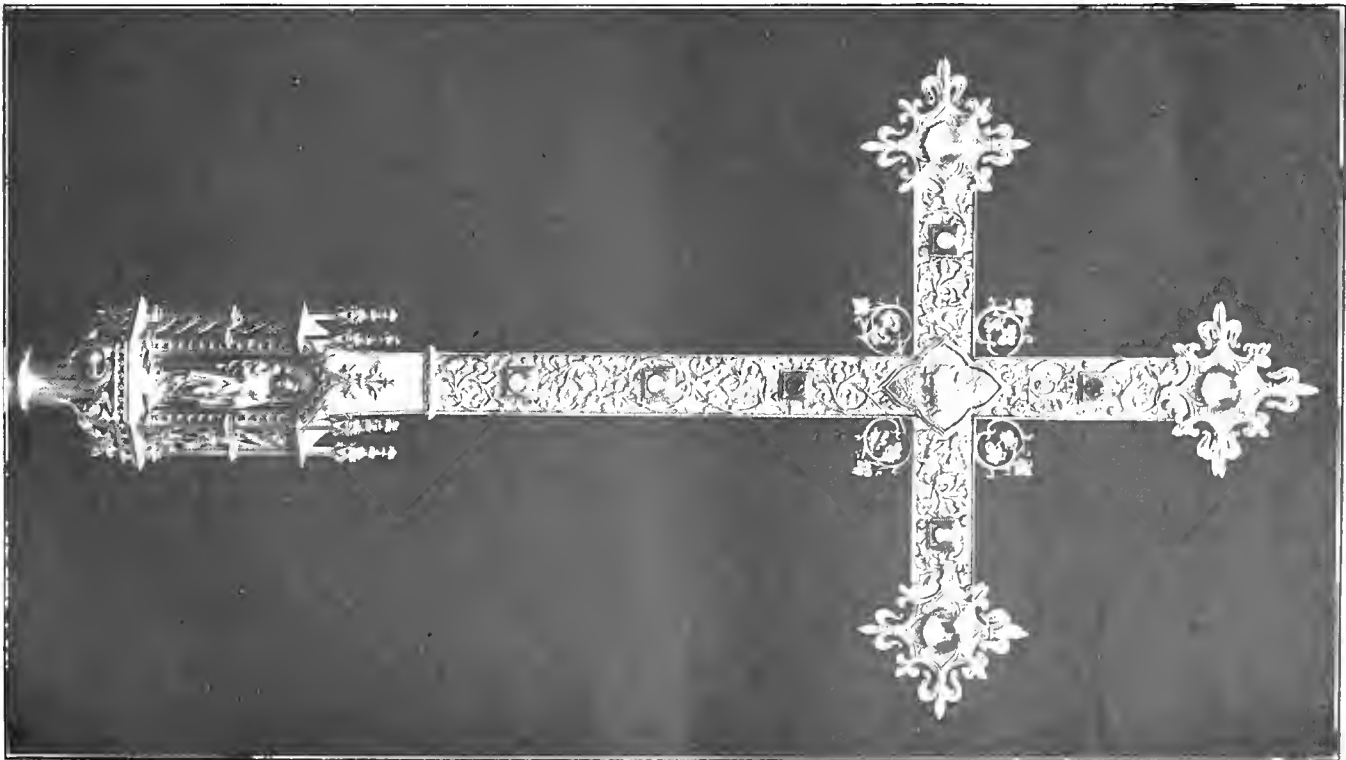
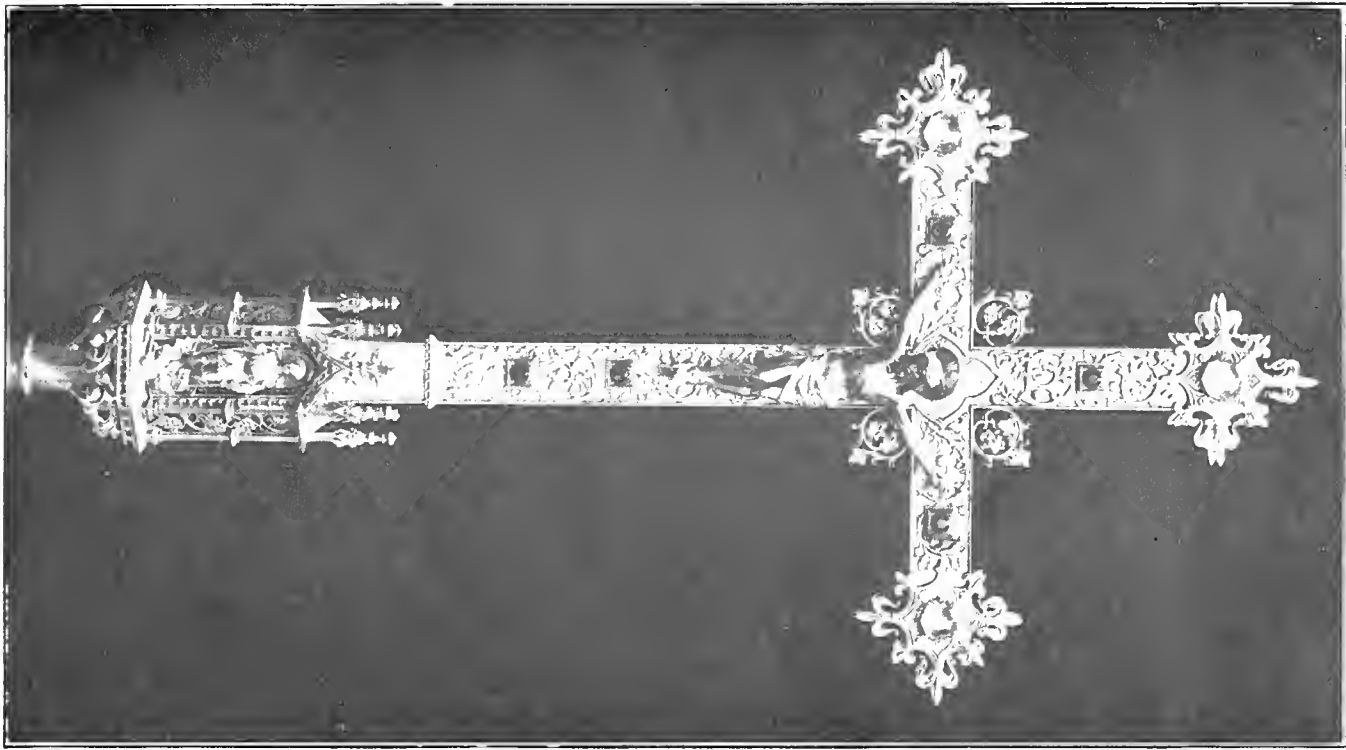


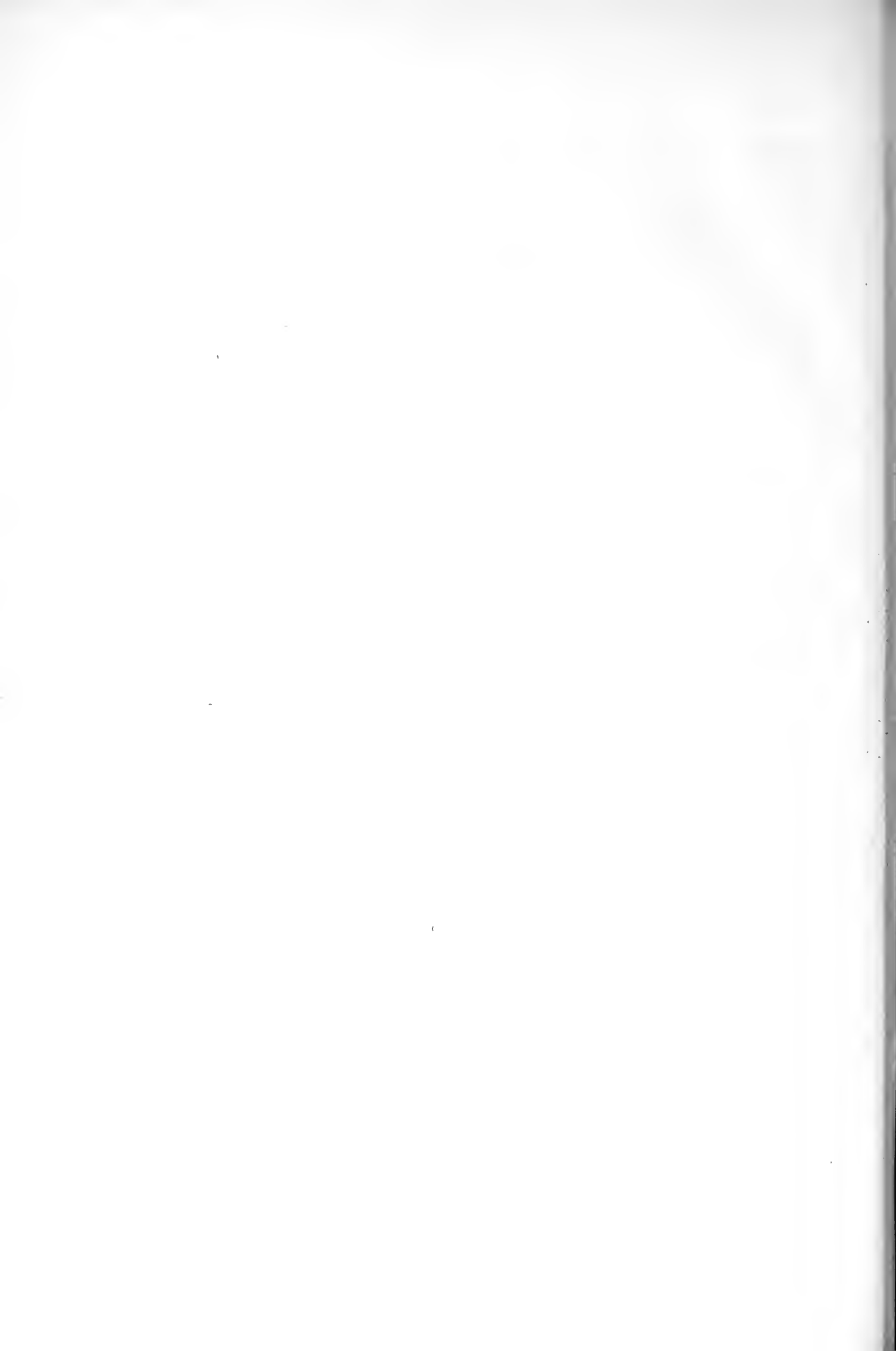
F. L. PEARSON, F.R.I.B.A., Architect.



SELECTED DESIGN.







THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The following is the newly issued scale of professional charges (first issued in 1872; revised in 1898 and 1919) of the R.I.B.A.:-

The Architect is employed subject to the following conditions founded upon the Customs of the Profession, and his remuneration is payable according to the Scale of Charges hereinafter stated, which Scale is fixed and accepted on the basis of the same conditions:-

(a) That the general supervision (which the Architect will give to the work is such periodical inspection by him or his deputy as may be necessary to ensure that the work is being carried out in accordance with his design, but constant superintendence of the Works does not form part of the duties undertaken by him, and is not included for in the following Scale of Charges.

(b) That in all cases in which constant superintendence is required a Clerk of Works shall be employed for this purpose. He shall be nominated or approved by the Architect and appointed and paid by the Client. He shall be under the Architect's direction and control, but the Architect shall not be held responsible for any fraud or negligence on the part of the Clerk of Works.

(c) That the issue of a certificate by the Architect for a payment to the Contractor implies only that in the Architect's opinion work has been done at the date of the certificate to the value stated thereon, and to the best of his belief in accordance with the contract or order. No certificate, however, whether final or otherwise, shall be held to render the Architect responsible for improper execution of the work or for any breach by the Contractor of the terms of the contract or order.

(d) That the Architect has authority to give such orders on behalf of the Client as are necessitated in the Client's interests by constructional emergencies.

(e) That the Architect is empowered to make such deviations, alterations, additions, and omissions as he may reasonably consider desirable in the Client's interests in carrying out the works, provided that no material addition to the cost of the contract or order is caused thereby.

(f) That the fees of any Consultant or Consultants retained for any part of the work with the concurrence of the Client shall be paid for by the Client.

(g) That in all cases in which any projected work is not proceeded with for a period of two years after drawings have been prepared, the Architect's services shall be paid for as for abandoned work.

(h) That all drawings, specifications, and documents prepared by the Architect shall remain his property, the copyright in the same being reserved to him.

(i) That the cost of the preparation of quantities, the measurement and valuation of variations, additions, and omissions, and the preparation of the statement of accounts is not included in the charges named in Clauses Nos. 1 to 9, but is to be paid in addition thereto.

SCALE OF CHARGES.

FEES ON NEW WORKS.

Clause 1.—For taking the Client's instructions, preparing sketch design, making approximate estimate of cost by cubic measurement, or otherwise, preparing drawings and specifications for the purpose of estimates, obtaining tenders, advising on tenders and in preparation of contract, selecting and instructing Consultants, furnishing to the Contractor one copy of the drawings and specification and such other details as are necessary for the proper carrying out of the works, general supervision as above defined, issuing certificates for payment, and passing and certifying accounts, the charge in respect of new works is to be a percentage on the total cost of all executed work as follows:-

(a) If the contract or order exceeds £2,000, the percentage is to be 6 per cent.

(b) If the contract or order does not exceed £2,000, the percentage is to be 10 per cent. in the case of works costing £100, graduated to 6 per cent. in the case of works costing £2,000, as the special character of such works may render appropriate.

HIGHER FEE FOR ALTERATIONS AND ADDITIONS.

Clause 2.—In the case of alterations of and additions to existing buildings a higher percentage may be charged, not exceeding twice the amount due under Clause 1 for new works of the same cost.

SPECIAL FEES FOR FITTINGS, DECORATIONS, ETC.

Clause 3. In works in which designs for fittings, appointments, decorations, or complex detail or construction are main features, special fees may be charged according to the circumstances, and also for designs for furniture.

FEES ON OMITTED WORKS

Clause 4.—In addition to the percentage on the total cost of executed works, the Architect is to be paid in respect of all works included in the tender or order, but not executed, two-thirds of the charge which would have been due upon them had they been carried out.

FEE FOR PARTIAL SERVICE

Clause 5.—If the project or part of it be abandoned, or if the services of the Architect cease or are dispensed with before a contract is entered into or order given, the charges in respect of the works abandoned, or for which the Architect was employed (as the case may be), are as follows:-

(a) For taking Client's instructions, preparing sketch design, and making approximate estimate of cost by cubic measurement, or otherwise, one-

fourth of the percentage stated in Clauses 1 or 2 (as the case may be) on the estimated cost of such works.

(b) For taking Client's instructions, preparing sketch design, making approximate estimate of cost by cubic measurement, or otherwise, and preparing drawings and particulars sufficient to enable quantities to be prepared or a tender obtained, two-thirds of the percentage stated in Clauses 1 or 2 (as the case may be) on the estimated cost of such works.

PAYMENT OF FEES BY INSTALMENTS.

Clause 6.—On a contract being entered into or order given for the works, the Architect shall be entitled to an instalment of two-thirds of the charge calculated on the total amount of the contract or order, and no part of such payment shall be reclaimable from the Architect in the event of the subsequent abandonment of the works. The remainder of the Architect's remuneration shall be payable by instalments from time to time as the work proceeds.

FEE WHEN WORK IS EXECUTED WITH OLD MATERIALS, ETC.

Clause 7.—In all cases where work is executed wholly or in part with old materials, or where material, labour or carriage is provided by the Client, the percentage shall be calculated as if the works had been executed throughout by a Contractor, and with new material.

SERVICES NOT INCLUDED IN PERCENTAGE.

Clause 8.—The foregoing percentages do not cover the following services, for which, and for any other services not covered by any payment herein provided for, additional charges may be made in accordance with the amount of work involved:-

Advising as to the selection and suitability of site. Negotiations relating to the site or building. Surveying the site or building and taking levels and making surveys, measurements, and plans of existing buildings.

The preparation of further sketch designs necessitated by a material alteration in, or addition to the Client's instructions, or altering the working drawings and specification in consequence thereof prior to the commencement of the works. Altering drawings, or preparing new drawings, and other services involved in consequence of variations or additions desired by the Client after the commencement of the works. Making extra drawings for the Client's or Contractor's use, and making drawings for and negotiations with ground landlords, adjoining owners, public authorities, or others, and making applications for licences and consents.

Making arrangements in respect of party walls and rights of light and other easements, reservations, or restrictions. Services in connection with litigation or arbitration. Services consequent upon or resulting from the death or bankruptcy of Contractors or the failure or neglect of Contractors from any cause whatever to carry out the works in accordance with the contract or order, or consequent upon the fraud or negligence of the Clerk of Works. Services in connection with fire, flood, or tempest during the execution of the works, and services in connection with the planning of grounds or gardens.

HOUSING SCHEMES AND LAYING OUT ESTATES.

Clause 9.—In fixing the Scale of Charges for development of land, or for housing schemes, a special arrangement will usually be required according to circumstances, but for ordinary cases the following are the charges:-

(a) For the preparation of a plan or scheme from existing maps, showing roads, building plots, and buildings in block, and including conferences with Officials of Local Authorities, but not including surveying, levelling, contouring, or the preparation of detailed plans of buildings, the remuneration is as follows:-

For the first 25 acres Two guineas per acre
On the next 275 acres One guinea
On the remainder Five shillings ..
Minimum charge Twenty-five guineas

(b) For preparing working drawings and specification of roads and sewers, obtaining tenders and advising on the same, and in the preparation of contract, furnishing to the Contractor one copy of the drawings and specification, general supervision as before defined, issuing certificates, and passing and certifying the accounts, the charge is 5 per cent. upon the cost of the works. Should the works not proceed after the preparation of the drawings and specification the charge is 3 per cent. upon the estimated cost.

(c) In housing schemes the charge for the services mentioned in Clause 1 is 5 per cent. upon the first 12 houses, 2½ per cent. upon the next 60, and 1½ per cent. upon any remainder. This percentage covers the ordinary variations in type of house, and such minor modifications as are made to avoid monotony in appearance. This scale is not necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.

APPROVAL OF LESSEE'S PLANS.

Clause 10.—For approving plans submitted by a lessee and for inspecting the work during its progress so far as may be necessary to ensure the conditions being fulfilled, and certifying for lease when required, the charge is as follows:-

For each £100 or part of £100 of the total cost up to £500, 2½ per cent., the minimum fee being £3 3s.

For each £100 or part of £100 from £500 up to £5,000, 1½ per cent.

For each £100 or part of £100 above £5,000, 1 guinea per cent.

LITIGATION AND ARBITRATION.

Clause 11.—For qualifying to give evidence, settling proofs, conferences with Solicitors and Counsel, attendances in Courts or before Arbitrators or

other tribunals, and for other services in connection with litigation and arbitration, the charges are based upon the time occupied and the professional standing of the Architect.

LAND SURVEYING AND LEVELLING.

Clause 12.—For surveying and making a plan of a town, village, street or road, estate or grounds, or any part thereof, for taking levels, setting out streets or roads, and for other services in connection with land not otherwise specially provided for, the charges are by time in accordance with Clause 21.

SANITARY SURVEYS.

Clause 13.—For inspecting, reporting and advising on the sanitary condition of premises, the charge is by time, in accordance with Clause 21, the minimum fee being £3 3s., in addition to the cost of assistance and appliances.

QUANTITIES.

Clause 14.—(a) For taking out Quantities and preparing Bills of same, the charge is 2½ per cent. upon the estimated cost of the work up to £5,000, and 2 per cent. upon the cost above £5,000.

(b) For very small or for elaborate works, or for alterations, an increased percentage is charged according to the circumstances.

(c) For taking out Quantities for Housing Schemes the charge is 2 per cent. upon the cost of the first 12 houses, 1 per cent. on the next 60, and ½ per cent. upon the remainder. These charges are not necessarily applicable if the carrying out of the work is effected in instalments and consequently deferred over a long period of years.

(d) For pricing out Quantities, or for preparing approximate estimates, the charge is ½ per cent. upon the amount.

(e) When an Architect is instructed to measure and value for the purpose of arriving at the amount of an interim certificate, the charge is ½ per cent. upon the amount.

(f) Measuring for and making account of variations upon building works, including pricing, the charge is 2½ per cent. upon the gross amount of additions, and 1½ per cent. upon the gross amount of the omissions.

(g) For taking particulars on site and writing specifications for alterations, the charge is based upon the time occupied or by way of additional percentage, as may be agreed.

(h) For re-arranging, pricing, and agreeing a Schedule of Prices the charge is ½ per cent. upon the cost of the work, or, in small matters, according to the time occupied.

(i) For measuring up work executed on Schedule, and preparing account and pricing same, the charge is 2½ per cent. upon the total amount of the account, or, in small matters, according to the time occupied.

In all cases where work is executed wholly or in part with old materials, or where material, labour, or carriage is provided by the Client, the percentage shall be calculated as if the works had been executed throughout by a Contractor, and with new material.

DILAPIDATIONS.

Clause 15.—For estimating dilapidations, and furnishing or checking a schedule of the same, the charge is 5 guineas per cent. on the sum agreed, the minimum fee being £5 5s. For negotiating settlement of claim and for other services the charge is by time in accordance with Clause 21.

Where one Surveyor acts between both parties the minimum charge shall be scale and a-half, divisible between them.

VALUATIONS.

Clause 16.—For valuing property for whatever purpose except as provided in Clause 17, the charge is as follows:-

For each £100 or part of £100 of the value up to £1,000, 1 guinea per cent., the minimum fee being £2 3s.

For each £100 or part of £100 from £1,000 to £10,000, half a guinea per cent.

For each £100 or part of £100 above £10,000, a quarter of a guinea per cent.

VALUATIONS FOR COMPULSORY ACQUISITION OF PROPERTY.

Clause 17.—For valuing and negotiating the settlement of claims under the Lands Clauses Consolidation Acts, or other Acts for the compulsory acquisition of property, the remuneration is on Rade's Scale as follows:-

ON AMOUNT OF SETTLEMENT, WHETHER BY VERDICT, AWARD, OR OTHERWISE.

Amount.	Gs.	Amount.	Gs.	Amount.	Gs.
£100 ..	5	£3,400 ..	30	£7,400 ..	50
200 ..	7	3,600 ..	31	7,600 ..	51
300 ..	9	3,800 ..	32	7,800 ..	52
400 ..	11	4,000 ..	33	8,000 ..	53
500 ..	13	4,200 ..	34	8,200 ..	54
600 ..	14	4,400 ..	35	8,400 ..	55
700 ..	15	4,600 ..	36	8,600 ..	56
800 ..	16	4,800 ..	37	8,800 ..	57
900 ..	17	5,000 ..	38	9,000 ..	58
1,000 ..	18	5,200 ..	39	9,200 ..	59
1,200 ..	19	5,400 ..	40	9,400 ..	60
1,400 ..	20	5,600 ..	41	9,600 ..	61
1,600 ..	21	5,800 ..	42	9,800 ..	62
1,800 ..	22	6,000 ..	43	10,000 ..	63
2,000 ..	23	6,200 ..	44	11,000 ..	68
2,200 ..	24	6,400 ..	45	12,000 ..	73
2,400 ..	25	6,600 ..	46	14,000 ..	83
2,600 ..	26	6,800 ..	47	16,000 ..	93
2,800 ..	27	7,000 ..	48	18,000 ..	103
3,000 ..	28	7,200 ..	49	20,000 ..	113
3,200 ..	29				

Beyond this Half-a-Guinea per cent.

NEGOTIATING PURCHASES OF PROPERTY.

Clause 18.—For negotiating the purchases of

estates and property and advising as to value if required the charge is as follows:—

For the first £100, 25 per cent.
For each £100 or part of £100 of the purchase price from £100 to £5,000, 15 per cent.
For each £100 or part of £100 of the purchase price above £5,000, 10 per cent.

Where more than one property is dealt with, a separate fee for each may be charged.

Where no purchase is effected the usual fee for valuation will be charged.

NEGOTIATING SALES OF PROPERTY.

Clause 19.—For negotiating the sale of estates and property, or introducing a purchaser, and advising as to value if required, the charge is double that stated in Clause 18.

TRAVELLING TIME.

Clause 20.—If the work should be at such a distance as to lead to an exceptional expenditure of time in travelling, an additional charge may be made under Clause 21.

TIME CHARGES.

Clause 21.—In cases in which charges are based upon the time occupied they will depend upon the professional standing of the Architect, the minimum fee being five guineas per day, exclusive of charges for Assistants' time.

EXPENSES.

Clause 22.—The foregoing Scale is, in all cases, exclusive of the cost of copies of documents lithography, travelling and hotel expenses, and all other disbursements, which are to be charged in addition.

DISTRICT SURVEYORS' ASSOCIATION.

Among the guests of the Association at their dinner at the Connaught Rooms on June 24, were Sir Aston Webb, K.C.V.O., C.B., President of the Royal Academy; Mr. Andrew Taylor, Vice-Chairman of the London County Council; Mr. Sheriff Banister Fletcher; the Venerable E. E. Holmes, Archdeacon of London; Sir John Dickinson; Mr. J. W. Simpson, President of the Royal Institute of British Architects; Sir Alexander Stenning, J.P., past President of the Surveyors' Institute; Mr. Edmond J. Hill, President of the Institute of Builders; Major M. E. Webb, D.S.O., President of the Architectural Association; Mr. Thomas Gautrey, Deputy Chairman of the London County Council; Mr. Walter Reynolds, L.C.C.; Mr. Ernest Newton, R.I.A., past President of the Royal Institute of British Architects; Col. R. C. Hellard, C.B.; Prof. S. D. Adshad, Vice-President of the Royal Institute of British Architects; Mr. D. P. Andrews, Solicitor, L.C.C.; Mr. Sydney Pecks, F.R.I.B.A., City Surveyor; Mr. E. E. Finch, M.Inst.C.E., City Engineer; Prof. Beresford Pite; Mr. Carmichael Thomas, Chairman of the Executive of the London Society; Capt. R. L. Reiss, Chairman of Executive of the Garden Cities' Association; Mr. H. V. Lanchester, F.R.I.B.A.; Mr. Deputy Mathews, F.R.I.B.A.; Mr. Paul Waterhouse, F.R.I.B.A.; Mr. T. Raffles Davison, Hon. Asse., R.I.B.A.

The President, Mr. Arthur Crow, F.R.I.B.A., in proposing the toast of "London, a City of Health and Beauty," referred briefly to the great public improvements that had been carried out by the City Corporation, the London County Council, and its predecessor, the old Metropolitan Board of Works, notable among which were the Thames Embankment, Holborn Viaduct, Queen Victoria Street, The Tower Bridge, and Kingsway. Speaking of the part the City took in the struggle of the commoners against the Lords of the Manor for the preservation of Epping Forest, he said that of the six thousand acres of forest land existing in 1850, three thousand had been sold for building purposes during the next twenty years, and the remainder was fast being appropriated for private uses. Owing to the action of the Corporation, practically the whole of the forest was restored, and under an Act of Parliament, passed in 1878, thrown open for the use of the public for ever.

Speaking of the churches and the beautiful halls of the great City Companies, Mr. Crow said they helped us to realise to-day much of the life of the City in medieval times. He hoped a fuller use might be found for the churches in the brief intervals of daily life, and appealed to the City and the Church to hand on to posterity these sacred treasures that had been committed to their trust. The doomed church of St. Katherine Coleman, Fenchurch Street, had escaped destruction on the memorable June 13, 1917, by a fraction

of a second of time, the bomb falling on the adjoining building. He hoped that might be taken as a favourable omen, and at the eleventh hour he would plead to the Bishop for the preservation of the church.

Sir Aston Webb, in responding to the toast, said London was a beautiful city, the charm of which always drew the wanderer back. It reminded him of the Venetian who asked his Florentine friend what he would like to be were he not a Florentine. He replied "a Venetian," and asking the Venetian what he would like to be were he not a Venetian, his friend replied, "If I were not a Venetian I should like to be a Venetian."

There were many opportunities for improvement in London, he said, and spoke of the beautiful river and the Embankment. He could not understand why we had an Embankment on one side only, and a dismal mud bank on the other; the work was incomplete. An embankment should be formed on the Surrey side of the much-needed road bridge erected as a National memorial on the site of the ugly railway bridge at Charing Cross. Sir Aston referred to the great work the London County Council had done in the past for the better housing of the people, and of the great schemes to be carried out in the future under the Housing Act. He paid a high tribute to the work done by Mr. W. E. Riley during his appointment as Superintending Architect, which he regretted was soon coming to an end.

Mr. Andrew Taylor, speaking of the Council's housing proposals, said they would involve an expenditure of some ten million pounds. The Council appreciated the efforts of those who were seeking to improve and beautify London, it was difficult to find the money to give effect to important proposals. He was glad to be able to say that the tower of St. Olave's Church, London Bridge, would be preserved, and the churchyard laid out as a garden where people could rest and enjoy the sight of the river and its shipping.

The Ven. Archdeacon Holmes spoke in sympathetic terms about the preservation of the City churches, especially those that were the work of Sir Christopher Wren.

Mr. Sheriff Banister Fletcher, in responding to the toast of the "Guilds and Craftsmen," which had been proposed by Col. Harcastle, F.R.I.B.A., said he had searched the City records for 800 years and could find no previous instance in which an architect had held the office of Sheriff. He spoke of the efforts of City Companies to improve the work of the artificer, and the good results that had been obtained by lectures, Schools of Handicraft, and exhibitions.

STATUES, MEMORIALS, etc.

At a meeting of the City Corporation last Thursday, the Streets Committee brought up a report recommending that no objection be offered to the erection of the proposed memorial to the London troops in front of the Royal Exchange in accordance with a design by Sir Aston Webb, P.R.A., approved by the Lord Mayor's Committee. The design contemplated two Venetian masts sheathed in copper and placed on stone bases slightly behind the Duke of Wellington's statue. The masts would, at the top, have emblematic figures of Victory and Peace in bronze. The height of the masts would be 75ft. from the pavement, and they would be so arranged that on ceremonial occasions colours could be flown. Bronze panels recessed into the faces of the pedestals would carry suitable inscriptions with the names of the London regiments and the engagements they took part in. There was considerable opposition to the proposal, and Mr. H. Percy Monckton, F.R.I.B.A., moved its rejection on the ground that it would spoil the Royal Exchange, and was altogether unsuitable to the position and as a memorial to the London regiments. Mr. Sheriff Banister Fletcher, F.R.I.B.A., said the position had been carefully thought out, and it was an ideal one for a memorial to the London troops. The design was by a man of great eminence, and those who had seen the masts in front of St. Mark's at Venice would have no fear as to their beauty and suitability. Colonel Dunfee

said the Lord Mayor's Committee were unanimous in desiring that the memorial to City men should be erected at the Royal Exchange, and Sir Aston Webb had made the design with every consideration for the architectural surroundings. Eventually, after a long discussion, an amendment rejecting this particular design, but referring the matter for reconsideration to the Streets Committee, was adopted unanimously.

At a recent meeting of the executive committee of the Kent War Memorial Mr. Herbert Baker submitted his proposals. These include the cross in the centre of the cloister garth at Canterbury with flagged paths on the lawn leading to it; arcades on the two sides, one connecting with the old Norman gateway, which will form the entrance; the restoration of the bastion for the use of record rooms, or possibly a chapel; and an exit through the old city wall leading to St. Augustine's. Roughly estimated, the cost of the proposals at present-day prices would be £22,000. The committee intend to circulate a picture or pictures of the design, and they hope to make a general appeal to the county not later than the day set apart for the celebration of peace. The organisation of the collection of funds has been entrusted to Mr. Henry Thompson, 1, Woodstock Road, Strood, Rochester.

The Rev. Canon Lonsdale Ragg, B.D., warden of the Bangor Diocesan School of Divinity, last week dedicated a shrine provided by one of the parishioners and placed in the porch of St. James's Church, Bangor, as an expression of gratitude for mercies received during the war, and in memory of ten members of the congregation of the Cathedral (Welsh) and St. James's Church who have fallen in the war. The shrine, which is of oak, contains a shelf on which are two vases for flowers.

A war memorial screen was dedicated at St. John's Church, Southend, on Tuesday week. The screen is composed entirely of well-seasoned oak, and consists of three bays, the central forming the entrance to the North Chapel. The cornice is richly moulded, with a running vine ornament along its full length, on which is inscribed "Their name liveth for evermore." The panels below are pierced tracery work, and in the hollows over the entrance way are the dates, "1914—1919." In the panels below are the names of those from the parish who gave their lives during the war. The screen is surmounted by a group of sculpture, representing "The Great Sacrifice." At the foot of the Cross, on a shell-shattered ground, lies a wounded soldier. Around the figure is the debris of war—a half-wrecked gun-carriage, shattered trees, discarded rifle, and fallen cap with the badge of the Essex Regiment thereon. With fast-failing strength the soldier is reaching out to touch the Cross. The cost was £300. The memorial has been carried out in its entirety by Messrs. Harry Hems and Sons, of Exeter.

At Preston opinion favours the provision of more suitable accommodation in the town for the surgical and medical care of children, and it has been decided to erect a children's wing at the Royal Infirmary, while a monument will be erected in the Market Square at a cost of about £5,000. Mr. Gilbert Scott, grandson of the designer of the Town Hall, and architect to the Liverpool Cathedral, has been invited to prepare designs for the monument.

The members of the Baltic Exchange have announced the form of the memorial which is to be raised to those members who have fallen in the war. The proposal is to fill the eastern dome and side windows with stained glass representing subjects of an allegorical and military character, and to engrave in alabaster the names of those who made the supreme sacrifice. The memorial is to cost about £8,000, and the design will be on view in a few days.

It was stated at Hitchin that housing plans from Letchworth took eight days to reach the proper official on getting to London, but were approved in an hour when a local deputation called.

CHARLES THE FIRST'S STATUE AT WHITEHALL.

Mr. Lionel Earle, the Permanent Secretary to the Office of Works, sends some interesting particulars to *The Times* in connection with the statue of King Charles the First, which was protected during the war by sandbags, etc., and has now been cleaned and repaired. The statue was modelled by Hubert Le Sueur in 1633, and his name, "Huber Lesneur fecit 1633," is inscribed on the plate securing the near foreleg. The following is an extract from Stow's History reproduced on an engraving by W. Hollar:—

"The Statue is fine brass, bigger than life, was made for the Earle of Arundell, by that Famous Statuary Laseur, and to prevent demolishing, was Purchased by one Mr. John Revett—a Brazier in Holborn; who upon the Restoration of King Charles the 2nd presented it to His Majesty, who caused it to be erected upon an Oval Pedestal of Free Stone, where it now stands."

It was erected on its present site in 1674, and the design and execution of the plinth are ascribed to a pupil of Grinling Gibbons. The material of the casting is bronze. The horse and figure appear to be complete except that the sword and part of the sword strap are missing. In 1810 they apparently broke off and were retained by a Mr. Isaac, who was ordered to return them to his Majesty's Office of Works. They were again placed in position, but subsequently were either broken or wrenched off, and have never since been recovered. King Charles with the saddle cloth was apparently cast separately from the horse, the two castings being afterwards welded together.

Serious cracks were discovered in the near foreleg, at the base of the shank in the front of the hoof, and also around the root of the tail. The first two fractures were by far the most serious, as the near foreleg supports the greater part of the weight of the statue, and if the leg had collapsed the statue would have undoubtedly crashed and been probably damaged beyond repair. The fractures at the root of the tail were of such a character that in all probability the tail might have fallen off at some future date, with possible injury to passers-by.

The work of cleaning the statue was commenced in February of this year. Wherever possible the dirt was removed by scrubbing with the aid of clean cold water, and disclosed many defects which had not before been apparent. The statue of the King was then found to be in an excellent state of preservation, there being a marked difference between it and the casting of the horse; this tends to confirm the view that the King and the horse were cast separately. The cast of the horse is very poor, very unequal in thickness, and disclosing numerous patches and fractures. The pin and blow holes are the ordinary faults found in a poor casting. The bronze was evidently badly mixed, and this has aided the corrosive action of the moist, acid-laden London atmosphere.

THE TRIPLE CHAPELS IN PETERBOROUGH MINSTER.

The Triple Chapels—in Peterborough Minster, according to Archdeacon Hutton, D.D., are now "devoted to base uses, as little better than lumber rooms." It would be a pious act, he says (which some benefactors would be willing to perform), to restore these to their sacred uses for prayer and praise. An attempt has been made to restore the first chapel—that of St. Oswald—to devotional purposes.

Of the Font Chapel, with piscina and font, Dr. Hutton says: There is no quiet place where a visitor may kneel in prayer and meditation, undisturbed by passers-by and without being obliged to pay a fee for entrance. Fees here, as in almost all cathedral churches, English and foreign, are a sad necessity; and I see no hope, in our present circumstances, of the whole building—as we should all wish—being thrown open freely to everyone. But there is one chapel at the south-west of the nave, which could

be used for this purpose if it were properly fitted. I have, since I came to Peterborough, offered to undertake this work at my own cost. I now venture to repeat my offer, in the earnest hope that this thankoffering may be accepted as a step towards the assumption of that rightful place in the devotions of our city and diocese which we all desire our great church to occupy.

There is no chance screen. Everyone who enters the cathedral is confronted by the glaring ugliness of two flat erections which look like nothing in the world except the backs of wardrobes. There are two ways of dealing with what is a standing discredit. One is to erect a screen to cover what is now bare; the other to move what are now return stalls to the north and south, and put a continuous screen of fine ironwork (like the present gate) across, as a separation between choir and nave, of a nature not uncommon in cathedral churches in this and other lands. The pillars and wrought-iron gate are part of the Restoration screen design, confessedly never convincingly popular.

The southernmost of the "lumber rooms" is a very beautiful chapel.

THE AESTHETIC SIDE OF HOUSING.

The following appeared in yesterday's *Times*:—"Amongst the many serious problems of the housing question and the discussions to which they give rise, there appears to be a great danger that one very important consideration may, in the majority of cases, be entirely lost sight of—namely, the necessity for a due regard to the aesthetic and architectural quality of the designs of the houses to be erected.

"The face of the country from Land's End to John o' Groat's is to be permanently stamped with the impress of the present age. Never has such a widespread scheme of building, concentrated into the shortest possible time, been in contemplation. It has been exhaustively discussed in all its practical aspects both by those in authority and by many without any authority at all, but, in all this discussion, little or nothing has been said as to the necessity for these buildings, which are to form such an important and universal feature of our suburbs and countryside, being pleasant to look upon and in harmony with the best traditions of English cottage building. I venture to suggest that this aspect of the question is as worthy of consideration as the more practical questions of sanitation, cubic space, etc. The one ministers to the physical and bodily health, the other to the mental and intellectual.

No country in the world is so rich as ours in examples of simple and picturesque cottages, establishing a tradition which it is criminal to ignore. Yet during the last fifty years or more the whole of our cottage building has been of a degraded and demoralising character, devoid of all beauty and marked by a squalid meanness which is a direct encouragement to dirt, disease, and crime.

An opportunity now presents itself to pick up the threads of our lost tradition, and I would urge upon the controlling authorities that insistence should be made upon the proper consideration of the aesthetic side, and that this quality should be essential to approval; and upon local authorities the vital necessity of seeking the best technical advice in order to secure that these houses may be not only healthy to live in and well constructed, but that they may have that simple and suitable architectural quality which is characteristic of the best periods of English cottage building.

HENRY T. HARE.

President of the Royal Institute of British Architects.

9, Conduit Street, Regent Street, W.1.
June 30.

Mr. B. C. Andrews, of St. Austell, has been appointed architect in connection with the Launceston T.C.'s housing scheme.

Mr. J. T. Blackwell has been appointed by the Kettering R.D.C. to the position of architect for the housing schemes throughout the district.

Correspondence.

HEATING NON-BASEMENT HOUSES.

To the Editor of THE BUILDING NEWS.

Sir,—In reference to the article in your issue of the 13th of this month under the heading "Heating Non-basement Houses," the system which is there advocated is by no means an American invention, and has been in vogue for many years.

We ourselves have erected many apparatus almost exactly on the lines you mention in your article. Such a scheme presents no engineering difficulty, and the result is perfectly satisfactory, the principal objection being that the stoking has to be carried out in the room in which the boiler has been placed.—Yours faithfully,

CHAR. P. KINNELL AND CO., LTD.

(J. L. Kinnell, Director).

65 and 65A, Southwark Street,
London, S.E.1. June 23, 1919.

THE R.I.B.A. AND HOUSING.

Sir,—I am directed to inform you that, with a view to assisting county, municipal, and local authorities of the London area in the selection of architects for their housing schemes, the Royal Institute of British Architects has appointed a Central Consultative Board for the nomination of candidates qualified to undertake such work.

The Board is prepared to advise and confer with representatives of the authorities and their architects, both in connection with the preparation of such schemes and during their execution. The advice and assistance of the Board involve no addition to the scale of fees fixed by the Royal Institute for the remuneration of architects employed for housing schemes, providing the nomination of the Board is accepted by the authority concerned.

The Central Consultative Board consists of the following members:—The President, R.I.B.A., Mr. Henry T. Hare, Mr. Wm. Dunn, Mr. H. V. Lanchester, Professor Patrick Abercrombie, Mr. A. W. S. Cross, Mr. E. Guy Dawber, Mr. H. D. Searles-Wood, Mr. W. A. Harvey, Professor S. D. Adshead, Mr. W. E. Riley, F.R.I.B.A., and Mr. Courtenay M. Crickmer.

Applications for the assistance of the Board should be addressed to the Secretary, Royal Institute of British Architects, 9, Conduit Street, W.1.—I am, Sir, your obedient servant.

Secretary, pro tem.

MINISTRY OF HEALTH ACT, 1919.

Sir,—I have the honour to inform you that, under the provisions of Section 11 (1) of the above Act an Order in Council has been made fixing the 1st July as the day upon which the Act is to come into operation.

On that day all the powers and duties of the Local Government Board will pass to the Ministry of Health, the question of the transfer to other Government Departments of any existing powers or duties not relating to matters affecting or incidental to the health of the people being reserved for consideration and decision at an early date.

All communications on subjects previously within the jurisdiction of the Local Government Board should accordingly, on and after the 1st July, be addressed to the Secretary, Ministry of Health, Whitehall, S.W.1.—I am, Sir, your obedient servant.

CHRISTOPHER ADDISON.

Minister of Health.

Whitehall, S.W.1.

June 30, 1919.

A French committee formed in Paris proposes to erect a monument to the British and French who fell side by side in the battles of the Somme.

Lord Montagu of Beaulieu, presiding at a dinner of the London Society last Thursday evening, predicted a time when St. James's Park, the Green Park, and other London parks would be roofed in; converted into winter gardens, with shrubs and flowers growing, dry under foot, not smothered in snow or mud, and with roofs upon which aeroplanes could land, and from which people could be conveyed by air.

COMPETITIONS.

GLASGOW. In connection with the Housing and Health Exhibition which the Glasgow Corporation are promoting to be held in the Kelvin Hall of Industries in the autumn, designs are now coming in from architects, civil engineers, and others for the housing competitions. The most important of these is the laying out of the lands of Kenyahill, Riddrie, Blackhill, and Lethamhill, belonging to the Glasgow Corporation. The lands extend to about 250 acres, and are to be designed so that the average density will not exceed twelve houses per acre, provision to be made for sites for public buildings, such as churches, schools, halls, etc., and for children's playgrounds, bowling greens, open spaces, etc. Provision is also made for a few shops on the site. The drawings include plans and sections of various types of houses proposed. They may include cottages, self-contained terrace houses, not exceeding two storeys in height, and two-storey blocks of flat houses. Premiums of £400, £250, £150, and £100 are to be awarded for the four best designs in order of merit. For the laying out of 19½ acres of land belonging to the Corporation at Coplawhill premiums of £150, £100, and £50 are to be awarded. The general lay-out plan is designed for an average density not exceeding twenty-four houses per acre, accompanied by plans and sections of houses which will be in blocks of three-storey tenement, having not more than six houses entering by one common stair. Similar premiums are awarded for designs for houses at Mossbank, Bellahouston, belonging to the Corporation, while £200, £100, and £50 will be awarded for the three best designs for laying-out an area of about 520 acres of land situated between Shettleston and Tollcross, not belonging to the Corporation and partly outwith the city. Premiums of £100, £50, and £25 are also given for a model with relative plan of semi-detached cottages of four or five apartments each. Similar sums are given for plans of houses so fitted and equipped. There will be a minimum of moveable furniture to be provided by the tenant. The last day for receiving the designs and models is July 31.

PANTG.—Of the plans submitted to the U.D.C. in competition for the lay-out of the building site at Kemys Fawr, the first premium is awarded to Messrs. Thomas and Morgan, of Pontypridd, and the second to Messrs. C. F. Bates and C. L. Jones, of Newport (both equal in merit). The winning plans provide for ten houses, at four to the acre; sixty, at eight to the acre; and 184, at twelve to the acre.

CHIPS.

The Diocese of St. Edmundsbury and Ipswich has decided that St. Lawrence Church, Ipswich, be adapted for a conference hall, at an estimated cost of £1,000.

Over £1,000 has been raised towards the cost of the proposed war memorial chapel at St. Michael's Church, Swanage. Sir Thomas Jackson is the architect.

The St. Anne's Well Brewery Company have decided to rebuild the New Inn, at Whimple. Plans and specifications have been prepared by Messrs. Cole and Jerman, Exeter.

Mr. Bruce Oliver, of Barnstable, has been engaged by the Bidford U.D.C. to draw up plans, etc., for the Council's housing scheme, in conjunction with the surveyor. Fifty houses are to be built.

Approval has been given by the Streets Committee of the London City Corporation to the erection of the memorial to London troops in front of the Royal Exchange, in accordance with the design of Sir Aston Webb, president of the Royal Academy. The memorial consists of two Venetian masks on granite bases, which will contain suitable inscriptions.

The employees in the Rugby building trades, who recently asked for an all-round advance of 9d. per hour, retrospective from February 6, have agreed to accept the award of the Midland Conciliation Centre, and the strike notices have been withdrawn. The award provides for a 46½-hour week for the summer, and 44 hours for the winter, and the rates of pay, which are made retrospective from June 1, represent an advance of 4d. per hour—i.e., 1s. 7d. per hour for skilled men, 1s. 6d. painters, 1s. 4½d. plasterers, labourers, stone sawyers, scaffolders, etc., and 1s. 4d. for general labourers.

Our Office Table.

We are, it seems, to have "dilutees" for building. Dr. Addison told the House of Commons on Monday that, in order to expedite building, it would be necessary to supplement skilled workers in the building trade by the introduction of "dilutees," or auxiliary labour in some other form. For this purpose, the Minister of Labour is to meet representatives of artisans and employers and discuss with them the best way of adopting in the building trade measures similar to those employed in the production of munitions during the war. Not at quite such high wages we hope!

The "hot pavement" which figures in the typical description of city weather in the dog-days deserves its bad reputation, according to an article by Mr. G. S. Eaton, in the *Engineering News-Record*, reporting the results of thermometric readings made at Riverside, twenty miles from Chicago. Readings were taken every half hour from 8 a.m. to 10 p.m. at the surface of three types of pavement; also one foot and four feet above the pavements, and over adjacent lawns. Maximum temperatures of 124, 118, and 114 degrees Fahr. were attained respectively by asphalt, brick and concrete surfaces. From 11 a.m. to 6.30 p.m. the average temperatures of these three types of pavement were, respectively, 118, 113 and 108 degrees. The writer points out that the trouble caused to motorists by the expansion of air in rubber tyres in hot weather must be greatly aggravated by these pavement temperatures, while the effects on horses' hoofs and on shoe leather are problematical. During the middle of the day the air one foot and four feet above the roadways was from 3½ to 4½ degrees higher than over a lawn in the sun. On the same days the Chicago station of the Weather Bureau recorded the highest daily maxima for the summer, viz., 102 and 101 degrees.

The selection of the site for Coventry's proposed new Town Hall was settled last week by the City Council. The mayor said Earl Street afforded an ideal site, though he admitted that the probable cost (£200,000) was heavy. The alternative was Hay Lane (£80,000), but that was a cramped site, and would prevent future extension of the Council House. Opposition to the Earl Street site was led by Mr. Wyles, who said the council should have several sites, with full details, before them; and, as an alternative to the most recommended site, proposed the acquirement of the Chauntry as the place for the Town Hall. Mr. Makepeace declared that he would support no Town Hall proposal until the council had a comprehensive people's housing scheme under weigh. Mr. Barford advocated the Quadrant site, and Mr. Nichols Stevens's Nursery, near the railway station, at a cost of £120,000. After a long discussion the meeting approved the Earl Street site, and the committee will proceed with the preparation of further particulars as to cost. It is proposed to put the scheme into an omnibus Bill in the 1920 session of Parliament.

"The Empire Municipal Directory of Local Authorities and Officials" for 1919-1920, issued by the Sanitary Publishing Co., Ltd., 3, Breams Buildings, E.C., at five shillings, embraces not only the three kingdoms but the whole of the Dependencies and Colonies of the Empire. Many must have missed it during the past half-year, shortage of printing labour being responsible for delay, and all will find it as indispensable as it is complete. The information is up-to-date, and the reviews of progress in all matters dealt with by local authorities are well done, and will be found most helpful.

The weekly return of housing progress issued by the Local Government Board states that new housing schemes submitted to the Board during the week ending June 21 numbered 270, as compared with an average taken over the previous fifteen weeks of 147. They bring the total number of schemes submitted to the Board to 2,538, representing an area of more than 30,000 acres—land sufficient for

the erection of more than 300,000 houses. The house plan schemes submitted during the week numbered twenty, representing nearly 3,000 houses, bringing the total number of house plan schemes submitted to 225, representing 17,720 houses. Plans for more than 7,000 houses have been approved.

The Midland Federation of Builders, at a meeting in Birmingham last Thursday, approved of a scheme which provides for the grading of areas and the fixing of a standard of wages for operatives in the various districts so graded. Ten counties will be included in the Midland district, and a central council will be formed consisting of twenty-five employers and a similar number of operatives. The question of grading will first be considered by district councils, and their decisions will pass to the central body for ratification. The object of the scheme is to bring about uniform standards of wages and hours. It is proposed to set up five grades, the wages in the highest grade being as follows:—Skilled operatives, 1s. 9d. per hour; Painters, 1s. 8d.; labourers and navvies, 1s. 6d. In each of the remaining four grades there will be a proportionate reduction of one penny an hour. These rates are sanctioned on the understanding that the hours of work in the summer shall be 46½ a week, and in the winter 44, and subject also to the condition that they are not affected by the establishment nationally of a forty-four hours' week. Under the scheme machinery is provided by which appeal can be entered in a case where it is contended that the wages paid are too high. Until the issue has been decided the existing rate of wages are to remain in force. The agreement is subject to revision once every twelve months. An application was received recently by the Midland Central Board of Conciliation for the building trade from the operatives in Birmingham for an advance of 4d. per hour in the rate of wages, and also for a forty-four hours' week of five working days during the summer, with a "wet-time allowance" of two-thirds for time lost through inclement weather. The employers were willing to settle the dispute on the lines of the proposed "Area Scheme," but the operatives declined, with the result that the matter has now been referred to the National Conciliation Board in London.

With reference to the corporation housing scheme at Coplawhill, a proposal came before Glasgow Town Council last Thursday that the building regulations should be relaxed to permit the height of ceilings being 8 ft. 6 ins. instead of 9 ft. on the upper flat. The Building Regulations Committee, by the casting vote of the chairman, had refused the necessary permission, but by 37 votes to 20 the council agreed to the relaxation. The revival in the building trade which is being experienced in Glasgow was reflected at the local Dean of Guild Court the same day, when sixty-eight new linings for buildings were down for consideration. Among them was an application by the corporation to build thirty-seven tenements of dwelling-houses, three storeys in height, in the Coplawhill district, but it was continued in order that the town council might give their consent to a relaxation of certain of the building regulations of the city, the object being to reduce the cost of the houses. The Dean of Guild regretted the continuation in view of the shortage of houses in the city at present, but he wished it to be understood that the delay was not caused by the court, but was due to the corporation themselves. The more important of the plans passed were for buildings in connection with industrial establishments.

A letter from Mr. Ernest Newton, which appears in the *Times* of June 24, is of considerable importance to the building industry. Mr. Newton is in doubt as to the exact position between the Department of Building Materials Supply and the building trade with regard to the supply of building materials, and remarks that "no one quite knows the facts of the case of what is really taking place." A similar doubt arose in Mr. William Woodward's mind in April last, and, therefore, he says, in a letter to the *Times* of Monday last, "he communicated with the Department of Building Materials Supply, and asked whether it is a fact that there is no restriction

whatever by the Government on the supply of (1) all kinds of bricks; (2) all kinds of timber; (3) all kinds of steel and ironwork; and the official reply, quoted in his letter to the *Times* of April 1 last, stated clearly that there was no official restriction on the supply of the materials referred to, and that the Department would take no action likely to discourage the general demand. No doubt the Department referred to will reply in detail to Mr. Newton's communication, particularly with reference to his statement that "two-thirds of the supply of bricks have been ear-marked for housing schemes, one-third only left free for the ordinary building work." Mr. Woodward adds that, in his opinion, the whole causes of the trouble is the organised idleness on the part of the trade unionists, and until this is drastically dealt with there will be no hope for improvement: the obstacles to building will remain, and the cost of building in the future will be so prohibitive that the trade will remain stagnant, if not entirely terminated.

The Building Industries Consultative Board set up to represent architects, surveyors, builders, and operatives, in an investigation of the unsatisfactory conditions prevailing in the building trade, decided at its first meeting to establish relations with the Whitley Industrial Council for the Building Trades. It was generally agreed that the increase of the cost of building would be permanent, and that the morale of the workmen had been undermined by the system that had prevailed during the war. It was stated that the unions were prepared to deal in a disciplinary manner with men who play "cat-canny." A promise was made on behalf of the builders that if the operatives would give the best of their industry masters would go to them with both hands and reward their industry.

Two interesting publications are issued by the Soane Museum, and can be had there for 6d. each. One is a "Souvenir of Sir John Soane," the founder of the Museum, and architect to the Bank of England, containing an excellent reproduction of Sir John's portrait by Sir Thomas Lawrence, P.R.A., exhibited at the Royal Academy in 1829, and engraved by Charles Turner on steel. The other is a facsimile of some impromptu verses by John Taylor, newspaper proprietor of the *San*, with a MS. note added by Soane. The second publication is a reproduction of a "Popular Description" of the Museum written in 1835, by Mrs. Barbara Holland, the authoress of "A Son of Genius," edited by Mr. Arthur T. Bolton, the present Curator, with eight illustrations of the House and Museum, with eight illustrations showing the Library and Dining Room, the Recess in the Hogarth Room, the Monk's Parlour, a View from the Monk's Cell, the Tomb and Cloister of Padre Giovanni, the Tomb of Sir John Soane and Mrs. Soane in St. Pancras old churchyard, the Dome over the Sarcophagus, with Chantry's bust of Sir John Soane, and the Breakfast Parlour.

At an estimated cost of £220,000, Old Broad Street, London, is to be widened to 43 ft. under a scheme adopted last Thursday by the Court of Common Council.

The committee appointed to inquire into the validity of the certificate of naturalisation held by Mr. Philip de Laszlo, the well-known Hungarian portrait painter, has decided to report in favour of the certificate being continued. He was acquitted of any conduct justifying its withdrawal.

The Duke of Richmond, Provincial Grand Master of Sussex, laid at Brighton last Thursday the foundation-stone of a Masonic temple given to the province by Brother W. Porter in memory of his son, who was killed during the war. The site of the temple adjoins the Masonic Club in Queen's Road.

The contract of Mr. J. C. Christie for supplying and fixing gas mains, fittings, etc., for the London County Council having been terminated by the contractor, the General Purposes Committee have accepted the lowest offer, that of Messrs. Cannon and Hefford, at an addition of 125 per cent. in respect of new works and additions, 150 per cent. to schedule prices in respect of repairs, 150 per cent. for day work, and 30 per cent. for material and time respectively.

OGILVIE & CO.

Mildmay Avenue, ISLINGTON, N.

EXPERTS in HIGH-CLASS JOINERY.

ALTERATIONS & DECORATIONS.

ESTIMATES FREE.

FOR

Olivers'

Seasoned

Hardwoods,

APPLY TO—

WM. OLIVER & SONS, Ltd.,

120, Bunhill Row, London, E.C.

TENDERS.

Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender: it adds to the value of the information.

HEPTONSTALL, HEEDEN BRIDGE.—For work required in erection of meeting chamber and conveniences and alterations at Heptonstall Slack Baptist Chapel. Messrs. Sutcliffe and Sutcliffe, E.S.L., Hebdon Bridge, Architects.—

Stanish Bros.	£529 0 0
Mortimer, H., and Sons	468 0 0
Oldfield Watson	465 0 0
Mortimer, L.	376 0 0

Accepted.

HEBDONSHIRE.—For motor garage and workshops at Donwaders, Huddersfield, for the Huddersfield Industrial Society, Ltd. J. Berry and Sons, 3, Market Place, Huddersfield, Architects. Accepted tenders.—

Mason, Graham A., and Sons, Springdale Works, Longroyd Bridge, Huddersfield; joiner, Beardsell Brothers, Rashcliffe, Huddersfield; plumber, Thackeray, S., Croftland Moor Bottom, Huddersfield; plasterer and slater, Tunnachill, F. R., West Parade, Huddersfield; concrete, Cooke, J., Little Royd, Huddersfield; steelwork and patent glazing, Heywood, W. H., and Co., Bayhall Works, Birkby, Huddersfield; rolling shutters, Holt, W. F. S., Cavalier Street, Bradford.

LANBLETHORP.—For widening of bridge at Llanblethor, for the Cowbridge Rural District Council. G. E. Morris, Great House, Llanblethor, near Cowbridge, surveyor.—

Hyslop, A., Moss Side, Manchester	£4,274 15 0
Lewis, W. E., Dinas Powis, near Cardiff	869 17 6
Thomas, W., Cowbridge, Glam.	159 5 6

Accepted.

PLUMSTEAD.—For repair and painting externally and internally to the infirmary and laundry buildings, High Street, Plumstead, for the guardians of the Woolwich Union, Whitecup and Parnell, 42, William Street, Woolwich.—

Haslam, R., 46, Brookhill Road, Woolwich	£1,560 0 0
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Accepted.

ROTHERHAM.—For erection of a hundred houses for the borough council.—

Randall, J. H. S., Ltd., Sheffield (accepted).

STOCKPORT.—For the materials and manual and team labour required in repairing and pointing rubble walling along New Zealand Road, and the brickwork of portions of the museum at Vernon Park, for the Parks Committee. J. Atkinson, A.M.I.C.E., Borough Surveyor. Accepted tenders.—

Repairs to boundary wall, Rhodes, J. and T., Biddbury, near Stockport; repairs to museum, Graham, W., Curate Street, Turneroff Lane, Stockport.

STURGEON-ON-THAMES.—For an iron, wood, or composite building for a small hospital, for the urban district council. H. F. Coates, A.M.I.C.E., Surveyor.—

Ginger, Lee and Co., Manchester	£549 0 0
McManus, J., Rammersmith	419 0 0
Palmer, T. W., and Co., Merton	350 0 0
Marrable, R. N., and Sons, Leytonstone	347 0 0
Amalgamated Builders, Ltd., London	345 0 0
Carpenter, W. J., Stratford	326 7 6
Harbrow, W., Ltd., Bournemouth	289 0 0

WALLINGFORD.—For repairs to the master's house, Wallingford Poor-law Institution, Millar and Son, 1, Arcade Chambers, Reading, Architects.—

Bosker, Sons and Co., Chislesey, Barks (accepted).

In regard to the erection of grand stands for Peace celebrations, etc., the Board of Trade are desirous of reminding all concerned that as far as possible these should be constructed out of secondhand material, home-grown timber, munition boxes, or other material which can be suitably framed together. It is desired that imported timber suitable for building purposes should be drawn upon as little as possible. Where imported timber has to be used it should be framed in such a manner as not to interfere with its subsequent use for building purposes.

LIST OF TENDERS OPEN.

BUILDINGS.

July 3.—Erection of a mechanical filter house at Fiddhill, Fifeherbert.—For the Mithras Urban District Council.—Tenders to the Chairman of the Waterworks Extension Committee, Council Offices, Pentre, Rhondda.

July 3.—Erection of 24 cottages at Buntingford, Herts.—For the Buntingford Rural District Council.—E. Vincent Harris, F.R.I.B.A., 8, New Square, Lincoln's Inn, W.C.2, Architect. Tenders to E. G. Theby, Surveyor, Buntingford, Herts.

July 4.—Alterations and additions to three cottages at Balbithorpe Farm, Hemmingsbrough, Yorks.—For the Small Holdings and Allotments Committee of the East Riding of Yorkshire County Council. Specifications and forms of tender from, and tenders marked "Balbithorpe Farm," to be sent to J. Bickerseth, Clerk, County Hall, Beverley.

July 4.—Erection of a pair of semi-detached cottages at Treverder, Llaneglos by Fowey, C. W. Parkes Lees, Architect and Surveyor, Fowey.

July 4.—Erection of 162 cottages on the Cherry Orchard Estate, Maudstone. Architect, E. Welch, A.R.I.B.A., 29 and 22, Maddox Street, London, W.1.

July 4.—Alterations and repairs at the Poor-law Institution, Longfleet Gardens, Poole. A. J. H. Pearce, Clerk, 217, High Street, Poole.

July 4.—Alterations to Peel Hall (Wynne Corrie) Sanatorium.—For the Lancashire County Council Tuberculosis Committee. H. Littler, 16, Ribblesdale Place, Preston, Architect. Tenders to Sir Harcourt E. Clark, Clerk to the County Council, Preston.

July 4.—The Commissioners of His Majesty's Works invite tenders for the execution of work and repairs to the buildings in their charge in the Preston district. Tenders to be sent to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1.

July 5.—Erection of sixteen houses in connection with the Brixham Council's housing scheme at Galle Rea.—For the Brixham (Devon) Urban District Council.—Tenders to H. G. Smith, clerk, Town Hall, Brixham.

July 7.—Erection of 24 workmen's dwellings on land in King Street and Duke Street, Radcliffe, Manchester.—For the Radcliffe Urban District Council. Tenders to S. Mills, Clerk, Council Offices, Radcliffe, Manchester.

July 10.—The Education Committee invite tenders for the necessary work in the alteration and additions to the infants' department of the Mersey Street School, Hull. Tenders to the Director of Education, Education Offices, Hull.

July 14.—Erection of 44 houses at Capel, Llanelli.—For the corporation.—Tenders to H. W. Spowart, town clerk, Town Hall, Llanelli.

July 14.—Erection of 52 houses on a site adjoining King's Road, Bengeworth, Evesham, under the provisions of the Housing of the Working Classes Acts.—For the town council. H. E. Dicks, 1, Market Place, Evesham, Architect. Tenders to T. A. Cox, Town Clerk, Evesham.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

REGLIND.—J. T. and Co., Ltd.—N. E. C.—Sir W. H. B. and Co., Ltd.—F. W. S.—C. B. Ltd.—C. and C.

B. Todd.—No.

E. F. S.—Please send.

T. H. M.—Thanks; no. Too far back.

C. W. Warner.—To the best of our memory, yes; but we cannot say for certain.

The Royal Archaeological Institute will hold its summer meeting at Hampton Court on Wednesday, July 30.

The King and the Prince of Wales have contributed to the fund now being raised for the endowment of the Royal Institute of Public Health.

The salary of Mr. S. E. Burgess, borough engineer and surveyor of Middlesbrough, has been increased to £1,000 per annum. Many commendations were made as to the excellent manner in which his duties were and are carried out.

Corrugated iron huts, measuring 30 ft. by 15 ft., at £40 each, are one of the features in *Surplus*, the second number of which has just been issued. The publication has been extended considerably since we reviewed the first issue, a fortnight ago, and many of the materials are now listed according to the county where they are situated. The Ministry announces that it cannot post *Surplus* to subscribers, but points out that it is obtainable from all bookstalls.

LATEST PRICES.

N.B.—All prices must be regarded as merely approximate for the present, as our usual sources of information are in many cases failing us.

TIMBER.

Maximum prices at which imported timber may be sold have now been fixed by the Controller of Timber Supplies till further notice. They are too long to quote here; but will be found in the "London Gazette" of Feb. 7, 1919.

IRON.

Roller Steel Joists, English.....	Prices controlled
Compound Girders, Ordinary	by Ministry of
Sections.....	Munitions.
Compound Stanchions.....	
Angles, Tees, Channels and Flitch	
Plates.....	
Wrought-Iron Girder Plates.....	
Steel Girder Plates.....	
Steel Sheets (Single or Double).....	
Steel Strip.....	
Basic Bars.....	
Mild Steel Bars.....	
Steel Bars, Ferro-Concrete	
Quality (basis prices).....	

OTHER METALS.

	Per ton.	Per ton.
Lead Water Pipe, Town.....	*\$34 10 0	to
Country.....	*35 10 0	"
" Barrel Pipe, Town.....	*35 10 0	"
Country.....	*36 10 0	"
Lead Pipe, tinned inside, Town.....	*37 10 0	"
Country.....	*38 10 0	"
Lead Pipe, tinned inside and		
outside.....	*41 0 0	"
Country.....	*42 0 0	"
Composition Gas-Pipe, Town.....	*39 0 0	"
Country.....	*40 0 0	"
Lead Soil-pipe (up to 4 in.) Town.....	*37 10 0	"
Country.....	*38 10 0	"
[Over 4 in. \$1 per ton extra.]		
Lead, Common Brands.....	34 0 0	"
Lead, 4lb. sheet, English.....	34 0 0	"
Lead Shot, in 28lb. bags.....	170 0 0	"
Copper Sheets, Sheathing & Rods.....	168 0 0	"
Copper, British Cake and Ingot.....	147 0 0	"
Tin, English Ingots.....	282 0 0	"
Do., Bars.....	186 10 0	"
Pig Lead, in low. Pigs Town.....	30 10 0	"
Sheet Lead, Town.....	34 0 0	"
Country.....	35 0 0	"
Genuine White Lead.....	64 5 0	"
Refined Red Lead.....	46 10 0	"
Sheet Zinc.....	85 0 0	"
Spelter.....	85 0 0	"
Old Lead, against account.....	20 10 0	"
Tin.....	14 2 0	"
Cut nails (per cwt. basis, ordinary		
brand).....	1 12 0	"
* For 5 cwt. lots and upwards.		

BRICKS.

(All prices net.)

First Hard Stocks.....	£4 0 0	per 1,000	alongside, in
Second Hard Stocks.....	3 15 0	"	" (river.
Third Hard Stocks.....	1 14 0	"	"
Mild Stocks.....	2 2 0	"	"
Picked Stocks for			delivered at
Facings.....	3 5 0	"	raily station.
Flettons.....	2 8 0	"	"
Best Fareham Red.....	4 0 0	"	"
Best Red Pressed			"
Roaden Facing.....	5 15 0	"	"
Best Blue Pressed			"
Staffordshire.....	7 17 6	"	"
Ditto Bullnose.....	8 2 6	"	"

WHITE AND COLOURED GLAZED BRICKS.

WHITE, IVORY, AND SALT GLAZED, 9 in. x 4 1/2 in. x 2 1/2 in.

	Best.	Seconds
	Per 1,000.	Per 1,000.
Stretchers.....	£ 21 10 0	£ 20 10 0
Headers.....	21 0 0	20 0 0
Quoins.....	26 10 0	25 10 0
Bullnose.....	26 10 0	25 10 0
4 1/2 Flats.....	26 10 0	25 10 0
Double Stretchers.....	28 10 0	27 10 0
Double Headers.....	25 10 0	24 10 0
1 side and 2 ends.....	29 10 0	28 10 0
Spays & Squints.....	28 0 0	27 0 0

Best Buff, Cream and Bronze, £2 per 1,000 extra on Best Whites.

Other colours, Hard Glaze, £5 10s. per 1,000 extra on Best Whites.

Moulded Stretchers or Headers, 1s. 2d. each.

Majolica and soft glazed Stretchers or Headers, £32 per 1,000.

Majolica and soft glazed Bullnose, £38 10s. per 1,000.

N.B.—Above prices are in full truckloads at London Goods Station.

SAND AND BALLAST.

	s. d.
Thames Sand.....	16 6 per yard, delivered.
Ballast.....	16 6 " " "
Pit Sand.....	16 6 " " "
Best Washed Sand.....	16 0 " " "

CEMENT AND LIME.

	s. d.	s. d.	Per ton
Best Portland Cement.....	68	0	71 0 delivered.
Ground Blue Lias Lime.....	43	6	at depot.

Exclusive of charge for sacks

	s. d.
Grey Stone Lime.....	47 0 per ton.
Stourbridge Fireclay in sacks 37s. 6d. per ton at depot.	

STONE.

	£ s. d.
Yellow Magnesian, in blocks.....	per foot cube 0 3 9
Red Mansfield, ditto.....	" 0 4 9
White Mansfield, ditto.....	" 0 4 9
Red Corsehill, ditto.....	" 0 2 6
Darley Dale, ditto.....	" 0 2 9
Grienshall ditto.....	" 0 2 4
Closeburn Red Freestone, ditto.....	per foot cube 0 2 2
Ancester, ditto.....	" 0 2 10
Chilmark (in truck at Nine	
Elms).....	" 0 1 10 1/2
Hard York, ditto.....	" 0 3 10
Do. do. 6 in. sawn both sides.....	per foot cube 0 3 3
Landings, random sizes.....	" 0 3 3
Hard York, 3 in. slab sawn two	
sides, random sizes.....	per foot cube 0 1 3

OILS.

	per tun	£28 15 0	to	£29 5 0
Rapeseed, English pale.....	"	26 15 0	"	27 5 0
Ditto, brown.....	"	29 0 0	"	30 0 0
Cottonseed, refined.....	"	39 10 0	"	40 0 0
Olive, Spanish.....	"	21 0 0	"	21 10 0
Seal, pale.....	"	46 0 0	"	46 10 0
Coconut, Coochin.....	"	42 10 0	"	43 0 0
Ditto, Ceylon.....	"	42 10 0	"	43 0 0
Ditto, Mauritius.....	"	32 5 0	"	33 5 0
Palm, Lagos.....	"	35 0 0	"	35 10 0
Ditto, Nut Kernel.....	"	17 5 0	"	19 5 0
Oleine.....	"	30 0 0	"	31 0 0
Sperm.....	"	0 12 3	"	—
Linseed Oil.....	per gal.	0 12 3	"	—
Baltic Oil.....	"	0 9 5	"	—
Turpentine.....	"	0 9 5	"	—
Patty (Genuine Linseed				
Oil).....	per cwt.	1 11 3	"	—

TILES.

	s. d.	Divrd. at
Plain red roofing tiles.....	62 6	per 1,000 ry. sq.
Hip and Valley tiles.....	5s. to 9	0 per doz.
Broseley tiles.....	75 0	per 1,000
Rusbon red, brown, or brindled		
ditto (Edwards).....	77 6	"
Ornamental ditto.....	8 0	"
Staffordshire (Hanley) Reds or		
brindled tiles.....	75 6	"
Hand-made sand-faced.....	80 0	"
Hip tiles.....	5s. to 9	0 per doz.
Valley tiles.....	5s. to 9	0

SLATES.

			of 1,200.		
Best Welsh Blue (Portmadoc) Slates	24 by 12	£32	2	6	
"	20 "	10	20	10	6
"	18 "	10	15	17	6
"	16 "	8	10	7	0

Minimum prices for Portmadoc Slates delivered within cartage limits.

Size	In 1/2 m. Lots.	not exceeding 1/2 m.	In 1 m. Lots.	Over 1/2 and not exceeding 1 m.
Inches.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
24 by 12.....	36 0 0	34 0 0	32 2 6	32 2 6
22 by 12.....	28 10 0	26 12 6	25 5 0	25 5 0
22 by 11.....	26 10 0	24 7 6	23 0 0	23 0 0
20 by 12.....	26 10 0	24 2 6	22 12 6	22 12 6
20 by 10.....	23 12 6	22 5 0	20 10 0	20 10 0
18 by 12.....	20 10 0	19 15 0	18 5 0	18 5 0
18 by 10.....	18 2 6	16 12 6	15 17 6	15 17 6
18 by 9.....	16 10 0	14 17 6	14 0 0	14 0 0
16 by 12.....	17 7 6	16 0 0	15 2 6	15 2 6
16 by 10.....	15 15 0	14 0 0	13 2 6	13 2 6
16 by 9.....	13 10 0	12 6	11 10 0	11 10 0
16 by 8.....	12 2 6	11 0	10 7 6	10 7 6
14 by 10.....	12 10 0	11 1 0	10 15 0	10 15 0

Damp Course.

	13 0 0	12 0 0	11 0 0
14 by 9.....	12 0 0	11 0 0	10 0 0
12 by 4 1/2.....	4 15 0	4 5 0	3 15 0

Note. Bangor Slates:—

24 by 12 to 20 by 10.....	15s. per m. extra.
20 by 10 to 14 by 10.....	10s.

Where quotations for slates are not obtainable at present architects and builders will do well to specify and use some of the excellent substitutes which have found favour of late. Prices of some of the best of these are as follows:—

ASBESTOS ROOFING TILES, supplied by the British Uraltic Co., Ltd., 8, Old Jewry, London, E.C. From £4 14s. per 1,000, 9 in. by 9 in., 400 tiles per square of roof covered, price per square, 37s. 8d., to £33 8s. per 1,000, 24 in. by 24 in., 34 tiles per square of roof covered, price per square, 22s. 3d.

ALLIGATOR ROOFING, supplied by the British Roofing Co., Ltd., 40, Trinity Square, E.C.3, in rolls of 216 feet super, with the necessary mastic and nails for fixing: 1 ply, 20s. 6d. per roll; 2 ply, 26s. 6d. per roll; 3 ply, 34s. 6d. per roll.

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Mr. Arthur Grimwood, of Sudbury, Suffolk, builder, architect, contractor and brewer, for two years Mayor of Sudbury, has left £37,324.

Kidderminster has decided upon a £40,000 war memorial scheme. Mr. Stanley Baldwin, the Financial Secretary of the Treasury, has given £5,000 towards a new children's hospital in relation with the scheme.

Mr. Leonard Hughes, member of the Royal Cambrian Academy, has presented his master-piece, the painting, "I Am," as an altar piece to Newmarket Parish Church, Flintshire, in memory of the officers and men of that county who fell in the war, and the dedication service will be held next Sunday.

The Isle of Man seems the place to move to. The insular Exchequer is in such a prosperous state that, after reducing the income-tax from 1s. 6d. to 10d., it was resolved last Saturday to abolish the sugar duty altogether. This duty formerly stood at 1d. per pound, as against 2 1/2 d. in England. A proposal was made to reduce the tobacco duty, but it was pointed out that the Imperial authorities would not consent.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.2

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Convent of the Incarnation, Oxford. Mr. Paul Waterhouse, M.A., F.S.A., F.R.I.B.A., Architect.	
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The War Memorial for Victoria and City. Mr. William Lucas, F.R.G.S., F.R.V.I.A., Architect.	
Red Triangle Club for a large village, constructed of salvaged war hut materials. Mr. S. Phillips Dales, M.S.A., Architect.	

Currente Calamo.

We fear the well-merited defeat of the Government last week in Committee on the Aliens Bill, when it resisted the new clause compelling the deportation of enemy Aliens, is too likely to be a temporary one, in spite of the Lord Chancellor's promise *before* the General Election "to send back every Boche in this country to Germany," and Mr. Lloyd George's "Never again!" The Government shirked those pledges and gave us a measure purposely feeble, and rendered inoperative by "may" instead of "shall" wherever the deportation of the enemy's friends in high places was necessary. If these pests are still permitted to permeate the people of these islands we are certain more outrages of the sort we have suffered from will be numerous. In one London suburb still thickly populated by German residents, and their dupes or tools among Irish sympathisers, threats are still rife of repetitions of mischief of the sort which means danger of life and damage to property of loyal neighbours. Not long since one venomous German woman openly boasted that she hoped yet to see one well-known residential road in a Northern suburb "in flames from end to end," and those who know her capability to help the realisation of her wish are by no means assured it will not be realised. In that district as in others there will be fierce reprisals if the law is helpless to protect our own people, many of whom, peaceable citizens enough in ordinary times, remember significantly the edict of Moses recorded in Numbers xxv. 5, and the fame of the patriot priest who had the courage to obey it. Lynch law is never to be encouraged, but it is the last resource of any community left to the mercy of traitors or foreign ruffians.

For the present we strongly advise the prompt purchase of the Register of the Changes of Names during the war, as announced from time to time in the *London Gazette* issued by the British Empire Union, 346, Strand, W.C.2, at half-a-crown. The 3,000 names contained comprise persons of almost every class and calling; many among them, of course, all-British subjects who have changed their names for family or other legitimate reasons. A large majority, however, are

German names changed to British names. Some of these no doubt belonged to families who for generations have resided in the United Kingdom and have become British in everything but name. But the outstanding facts for the public to note, are that a German name invariably betokens German origin, and that those who have German names realise fully the handicap they are under, and are changing them rapidly. The conclusion drawn by the Register is that camouflaged enemies are in our midst in numbers that should cause alarm. The Register gives the new and old names, occupation, date of change, nationality (when stated), and address. Only natural-born British subjects, of which there are great numbers in the list, appear to have stated their nationality. The register will be of real value, and we hope every reader will get a copy, and very carefully peruse its pages. He will not seldom be disconcerted when he realises his unpleasant proximity to or unaware connection with a camouflaged Hun, who is either watching opportunities for mischief, or, at the best, a dangerous and unscrupulous competitor in business, and a most undesirable acquaintance or neighbour.

An "A.R.I.B.A.," in a letter to the *Times* of last Friday, seems to us to sum up the difficulties which are hindering building more pithily, if briefly, than some of his seniors who have already favoured our contemporary with their opinions, some of which we have recently quoted. It is no use to blink the fact that the Government itself is the chief stumbling-block in the way of any man bold enough to face the phenomenal increase in the cost of labour and materials, restricted output, and interference by controls and trade unions, but his fear of what the Government is doing or may and can do paralyses him. First, he finds it has bought or ordered large quantities of materials, so restricting supply and raising prices. (It is said that when recently slate stocks were taken over, quotations next day were 30 per cent. up.) Secondly, he realises that any day some regulation may come into force to forbid sales to private owners. Lastly, he foresees (especially after last month's cruel decision) that when he has toiled and done his best, run the risk and spent his limited capital, some new legislation may forbid the sale, or extend the unjust Rent Re-

striction Act to new buildings, or commandeer it, to satisfy some popular clamour. These and similar ideas are being broached, and with legislators anxious to give a sop to every grumble and threat, there are discouragements all around. Doubtless it is the same in other industries, but not to a tithe of the extent in that which Mr. Lloyd George selected as his special victim in 1909-10, and has laid his heavy hand on ever since.

In his letter to the *Times* of Saturday last Mr. Alex. R. Stenning, P.P.S.I., F.R.I.B.A., agrees with Mr. Ernest Newton's recent declaration that the release of building materials from restrictions of every kind, and the provision of a free market are necessities if building operations are to proceed on any extensive scale. It should not be overlooked, as Mr. Stenning adds, that, although the erection of working-class dwellings is an urgent matter, there is much other building work, the need for which is equally insistent, if our industries and commerce are again to be set going, and which will give employment to a higher class of labour than is required for the erection of cottages. The price of the building land required for sites for cottages is often referred to as though it were one of the principal causes of high rents; but, as Mr. Stenning points out, 6d. or 7d. a week in respect of sites of one-eighth of an acre, at which price (or even less) most landowners are prepared to sell, is but a small proportion of the total rent. The present uneconomic position is due, not to the price of land, but to the high cost of labour in the preparation of materials, and in the erection of the houses, and to the restrictions on labour. If these difficulties were remedied it would again be possible to build houses to provide an economic return.

A lamentable instance was given last Thursday at the twenty-third ordinary general meeting of Callender's Construction and Cable Co., by Sir T. O. Callender, the managing director, of the deadly policy of ca'canny, which British trade unionism is persistently countenancing to the ruin of British industry. "With labour," he said, "they unfortunately in certain respects were still having trouble. The understanding was that in return for a forty-seven hour week additional energy would

be put into the work, so that the output should not be impaired. So far as their cable factory was concerned they had little to ask for beyond what they were getting, but the position in the engineering department was not so satisfactory. They were suffering there from a greatly diminished output; the men were working their forty-seven hours, but no acceleration had taken place, and they were behind in all their engineering work. That was a position which was causing great anxiety." The suicidal result will be visible enough ere long! What encouragement, then, will there be for those who, we trust, will, notwithstanding, still strive, as we did, vainly, year after year, during our six years' hard on one of the principal metropolitan borough councils, to reverse the short-sighted but persistently-pursued policy of the "friends of labour," to give contracts to German and other alien firms, in connection with our own industries and those of which Callender's is the leading representative? Once again the alien will snatch the bread out of the mouth of the British workman, whose representatives will come begging for doles, to keep him out of the workhouse, of the very firms which his own present stupid selfishness has paralysed in their struggle to ensure the right of the native workmen to do work for native needs, and factory after factory will close down, a melancholy monument of the folly of the thousands whose forced migration will mean the ruin of hundreds of districts whose prosperity depends on provision for the needs of the workers.

If for no other reason than that Mr. Riley's successor at the London County Council will find it impossible to supervise the whole of the housing work that the Council is about to undertake, we are glad to note the recommendation of the General Purposes Committee at yesterday's meeting to entrust some of the work to outside architects under the supervision of the Housing Committee, and to leave the rest to be dealt with by the Council's architectural staff. The General Purposes Committee is in communication with the R.I.B.A. on the matter, and doubtless its regulations as to terms of remuneration, etc., would be accepted.

Mr. P. A. Hinchliffe, of Barnsley, is the architect for the proposed new cinema theatre to be erected at Doncaster.

The Honley U.D.C. have approved of the lay-out plan for 16 houses on land at Station Road and Gin Lane. Mr. Joseph Berry is the architect.

Some Huddersfield gentlemen have acquired the Lion Arcade property, and intend to convert the premises for a picture house and cafe, whilst the shop frontage will be improved. Messrs. Moore and Crabtree, of Bradford and Keighley, are the architects.

The Burnley Housing Committee had practically decided to purchase three plots of land for about 800 houses, but when they asked for permission to complete the purchase and borrow the money the District Housing Commissioner took exception to the prices and suggested the breaking off of negotiations in one case and the continuing of the others with a view to getting the land cheaper. This means a severe check to the Committee as they cannot go on with the scheme of laying out the sites, and it will considerably delay the erection of much needed houses.

THE WAR MEMORIAL EXHIBITION AT THE VICTORIA AND ALBERT MUSEUM.

The War Memorial Exhibition at the Victoria and Albert Museum includes about 1,050 exhibits. The ancient examples are selected mostly from objects in the Museum, including examples presented by the Royal Architectural Museum. Very few of these are war memorials, but all, of course, are interesting, and some suggestive.

In the modern section half of those shown must surely have been chosen as examples to avoid, and some are not war memorials in any sense of the word. Neither is there anything above the most commonplace in some, such, for instance, as the tablet affixed to the house in which Dr. Johnson was born (858), or the bracket from the "Sir Paul Pindar" in Bishopsgate Street, or the spot on which the ancient cross of St. Winifred stood (860).

No catalogue was vouchsafed on the Press day, and the attendants were still busy labelling the exhibits when we left. They are somewhat miscellaneous arranged, and it is possible we have missed some worth notice. A model of the Wellington Memorial in St. Paul's Cathedral, by Alfred Stevens, dominates the entrance, as it does everything else that is shown. Mr. Gilbert Bayes contributes the three next most interesting objects. One is a female figure marked ANIKH, boldly designed and representing grief (966). The second is a plaster model of a relief at Aldeburgh, Suffolk, with the dead hero lying beneath some too heavy sun-rays, and the boughs of some perhaps too conventionalised trees (878). The third is a model of the famous exhibit in the courtyard of the Royal Academy, "War" (982), one of two to be placed outside the National Art Gallery, Sydney, New South Wales, Sydney, at any rate, will have a replica of one of the few really satisfactory examples of modern British statuary existing.

There is a model of a very creditable statue for East Suffolk of a soldier (971) by Mr. Albert Toft, which does him credit, and those who commissioned him. There is not a great deal that is purely architectural in character. Major Pawley shows his design for his proposed War Memorial Chapel at Westminster Abbey (823), which we illustrated in our issue of October 30, 1918. There is a plaster model by Mr. David McGill, which seems to have been suggested for the Shakespeare Memorial (923). There is another of a huge tower by Mr. W. J. Palmer Jones, with a somewhat heterogeneous group of gay folk, presumably not forming part of the design (874). There are three modest, but very suitable designs for village memorials designed and erected by Messrs. Ambrose Poynter and Geo. H. Wemyss (879). There are two designs by Mr. Maurice B. Adams, F.R.I.B.A., one for the marble tablet in Hammersmith Church, which we gave on June 5, 1918 (729), and the other of the Nield Memorial in Tottenham Church in our issue of May 16, 1917. There is also a good mural tablet of cast and chiselled bronze, by Mr. Owen Ramsden, erected in the Church of St. George the Martyr, Canterbury (728), which we shall illustrate shortly.

Mr. Frank Brangwyn, R.A., has three good rolls of honour, one (918) in inlaid wood; another (937) for the Glee Sugar Refining Company; and the third (935) for the Abram Collieries. In the absence of large funds, and the desire to provide something permanent and not meretricious, two or three small tablets of slate struck us as much more suitable than some of

the gaudier exhibits. The material would outlast more costly substances, and look best used by itself, and not bordered by marbles or alabaster, which would probably perish first.

We confess it had not occurred to us that tapestry might advantageously prove adaptable for war memorials, but certainly the section represented is quite the most interesting in the exhibition, and the strong lead given by Sir George Frampton may powerfully influence its adoption. Certainly by high and low it might be used with advantage in the sumptuous hangings of church, public building, or lordly hall, and in the humbler memorial of the cottage. That old examples have outlasted bronze and marble is one recommendation, and some beautiful examples are shown. That much will depend on the design goes without saying—we do not care greatly for the little black lambs in Sir George Frampton's exhibit; and more, perhaps, on the permanence of the modern dyes of the materials used. No one would welcome any revival of anything like a return to the "Berlin woolwork" of our grandmothers! But the possibilities of good design executed with taste are really attractive.

Our Illustrations.

ARCH OF REMEMBRANCE AND VICTORY, CHISWICK.

The site decided on for this war memorial is an ideal one, and the arch will form a monumental entrance at the eastern end of Turnham Green. Coming from London along the Chiswick High Road on the way to Kew, the monument will be seen from some considerable distance prominently rising at the end of the vista, with the tall spire of Sir Gilbert Scott's early church in the middle of "The Green," well surrounded by trees, the group composing finely against the western sky, or when viewed from the other prospect, returning from Gunnersbury, the arch will stand out well in contrast to Sanderson's white glazed brick wall-paper factory building near the top of the Duke's Avenue. The segmental wing walls of "this victory arch," following the boundary line of "The Common," will be tabulated by the Roll of Honour of a thousand names set out on monolith panels. To assimilate the needed height for the inscriptions on these curving wings with the comparatively low enclosing fences round Turnham Green Common, it is proposed to extend the structural composition of this frontispiece right and left by two further bays, repeating the obelisk capped piers and filling the interspaces with wrought-iron grilles, to accommodate harmoniously in this way the existing low lines of railings by avoiding too sudden a discrepancy in relative levels. Architecturally the monumental appearance of the arch depends almost entirely upon its lofty proportions. The vertical lines and pilaster treatment adopted help to restrict the cost. Increased prices in these times render an expenditure on structural depth in plan entirely out of the question, while funds are none too ample. Any arch of modest dimensions schemed on horizontal lines obviously must be unequal to an effective note of contrast to so eminent a steeple close by, in the middle distance of the surroundings. The heraldic panels on both façades, one the Royal arms and the other St. George of England, are designed for bronze. It is proposed to surmount the structure with a bronze statue of "Victory," by a first-rate sculptor. The archi-

tect is Mr. Maurice B. Adams, F.R.I.B.A., of Chiswick.

HALL, CLOISTERS, AND CHAPEL, ELY PLACE, HOLBORN, 1776.

Major Sir Edward Coates, Bt., M.P., has lent us this interesting drawing by John Carter. It was exhibited this year at the Burlington Fine Arts Club in Savile Row. Ely Place, well-known as the town mansion of the Bishops of Ely, dates from the time of John de Kirkeby, Bishop, who died 1290, and John of Gaunt died there. Sir Christopher Hatton obtained part of its gardens, and erected a house on the land, hence Hatton Garden. In 1773 the rights of Ely Place were transferred to the Crown, and a house for the Bishop (now 37, Dover Street, Piccadilly) became the Episcopal residence. The palace buildings were taken down subsequently, excepting the chapel, which was a fine example of fourteenth century architecture. It has long been in the hands of Roman Catholics, and Pugin had to do with restoring the building. The view reproduced is from the west. John Carter's description has been epitomised thus:—To the right is the chapel, now much altered and restored; in centre outside the cloisters; to the left the great hall, at the end part of the kitchen, and above it the tower of St. Andrew's Church, near Old Bailey. J. Carter, of Winchester, was born 1748 and died 1817. He was the author of several important works, the most valuable being his "Ancient Sculpture and Painting of England," 1786, republished in 1838. To John Carter's rendering of mediæval art the "Revival" was greatly indebted, while his writings, extending over twenty years, had great influence in forming a taste for Gothic. His drawings were considerably in advance of anything of the kind then published, the details being to a much larger scale, and some of his plates were coloured.*

CONVENT OF THE INCARNATION, OXFORD.

The design here illustrated represents some buildings about to be erected for a small Enclosed Order. The structure on the left consists, as regards the upper floors, of cells, and is connected with the older building, which provides the present accommodation of the community. The ground floor contains various rooms of general use, as well as a cloister corridor, which runs continuously from the old buildings to the new chapel. This chapel is seen on the right—a very simple building containing, in the choir, stalls for sisters and novices, and at the west end a small narthex for postulants. The whole is designed to secure the necessary accommodation with the simplicity characteristic of the Order and of its contemplative and intercessory work. The architect is Mr. Paul Waterhouse, F.S.A., F.R.I.B.A.

THE HOLT, APPLEDORE, NORTH DEVON.

This house is situated a few miles from Westward Ho! and commands magnificent views across the River Torridge on one side of the Bristol Channel and Lundy Island on the other. The billiard-room illustrated is part of an extensive addition made for Captain the Hon. Denys Scott. The work was carried out by Messrs. James Smith and Sons, Ltd., of London. The architect was Mr. Sydney Tatchell, F.R.I.B.A., of Westminster.

THE PROPOSED WAR MEMORIAL OF VICTORIA AND CAPITAL.

Mr. William Lucas, F.R.G.S., Fellow of the Royal Victorian Institute of Architects, is the author of this plan. The

scheme at its base provides "The Place of Tribute" and an amphitheatre, the main feature being the terrace with its broad tiers of steps and a central slab recording the spot from whence the representative of the King halted to give thanks to Almighty God. At each end is "The Stone of Panegyric," from whence on special occasions orations will be delivered. They will be ordinarily used for viewing to the best advantage the respective "Altar Bays of Honour." The great semi-circular recesses at the ends of the colonnades of the War Museum are to bear the names of the dead and "in praise of famous men." On either side of each wing, facing Flinders Street, sculptured medallions are to be encircled with the words "Greater love hath no man than this," and from unseen upper points by a nightly illumination these "rolls of honour" are never to be left in darkness. Masses of sculpture are proposed to cluster about the terminal points, finding their climax in the two main groups respectively emphasising the Army and Navy. Other groups to be provided, embodying the cardinal incidents of the Commonwealth in general and Victoria in particular. Below the central platform is contrived a reception hall for distinguished visitors on great happenings. Columnar screens are shown on the southern side of Flinders Street, with balustrades forming a recessed bay to give space for the better prospect of the memorial as a whole.

RED TRIANGLE CLUB FOR A LARGE VILLAGE, CONSTRUCTED OF SALVAGED WAR HUT MATERIALS.

In our issues of April 16 and April 30 will be found several illustrations of buildings of this kind erected by Mr. S. Phillips Dales, the Y.M.C.A. architect, during the war. To-day we give his plans and elevations for a Red Triangle Club, to be built of war hut materials.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS OF GREAT BRITAIN AND IRELAND.

The half-yearly general meeting of this Federation will be held at the Carpenters' Hall, Throgmorton Avenue, Old Broad Street, London, E.C., on Wednesday, July 16, 1919, at 10.30 o'clock in the forenoon, to deal with the business mentioned on the annexed agenda.

OFFICIAL WELCOME.

The Right Honourable the Lord Mayor of London (Sir Horace Marshall) will open the meeting by extending a welcome to the members attending. Members are requested to be in their seats punctually at 10.30 a.m.

AGENDA.

1. Notice calling the meeting.
2. Minutes of last annual meeting, held January 29, 1919, and business arising, if any.
3. Report. In accordance with decision of a former meeting, a short interim report will be submitted to the meeting.
4. Consider recommendation from the Executive Council:—"That the allowance to members of Council be the same as to members of the Administrative Committee in respect of expenses attending meetings, and that this recommendation be made a regulation under Rule 4 (c)."
5. Consider the following addition to Rule 22 (c), of which notice was given May 6:—"To insert at the end of the section, as printed, the following: 'All wages returns which are accompanied by a duly qualified accountant's certificate shall be accepted unreservedly by the Association; but all other returns shall be reviewed by the Finance Assessment Committee (which shall consist of not less than four members), who shall approve or otherwise each return, and shall assess where no return has been made by any member. For

the convenience of members and to act as expert investigator, if necessary, to the Finance Assessment Committee, each Association shall appoint a duly qualified accountant, under a suitable arrangement as to remuneration, whose services shall be at the disposal of members who desire to avail themselves thereof, for the purpose of certifying the wages returns required under Rule 22 of the rules of the National Federation or under any corresponding rule of any Association concerned."

6. Consider recommendations (if any) from yesterday's Council on the following matters, and resolve thereon:—(a) Communication from the Home Office re a proposed inquiry into the working of the present payment of compensation to workmen for injuries sustained in the course of employment, and as to whether it would be desirable to establish a system of accident assurance under State control or supervision. (b) Organisation. (c) The action of a branch of the Operatives' Federation in calling out their members who were employed by members of this Federation, under the agreed working rules of an association affiliated to this Federation, in carrying out work under sub-contract for a firm not so affiliated and not engaged in building construction. (d) Proposals for closer relations with certain branch trade organisations. (e) The demand of the National Federation of Building Trade Operatives for a national 44-hour week. (f) The action of the Institute of plumbers in arranging wages and conditions with operative plumbers injurious to members of this Federation. (g) Whether future negotiations relating to wages and conditions should be dealt with nationally instead of locally as heretofore. (h) The advisability of making it a condition of this Federation agreeing to a shortening of hours and any further increase in the maximum rates of wages paid in the building trade that the operatives should agree to the insertion in all working rule agreements of satisfactory provisions for the maintenance of an equivalent output. (i) The desirability of discontinuing membership with the Federation of British Industries. (j) Any other recommendations from the Executive Council.

7. Next meeting.

8. Such other business as may be presented by the President.

SUMMER MEETINGS OF THE FEDERATION IN LONDON.

Official programme:—

Tuesday, July 15, 1919.—10.30 a.m.—Executive Council Meeting at Carpenters' Hall. 6.30 for 7 p.m.—Dinner by the London Master Builders' and Aircraft Industries' Association to the Executive Council at the Trocadero Restaurant.

Wednesday, July 16, 1919.—Half-yearly general meeting at Carpenters' Hall, at which the Right Honourable the Lord Mayor of London will welcome the delegates. 8 p.m.—Reception by the President of the London Master Builders' and Aircraft Industries' Association to members of the National Federation and their ladies, to be held at Caxton Hall, Westminster.

Thursday, July 17, 1919.—10 a.m.—River Thames trip and visit to Hampton Court Palace and grounds, starting from Westminster Pier, arriving back at Westminster at about 8.30 p.m., on the invitation of the London Master Builders' and Aircraft Industries' Association.

A covered portico is to be erected, as a war memorial, in the public garden adjoining St. Botolph's Church, Bishopsgate, London.

The attitude of the Government in regard to the housing scheme was criticised at a meeting of the Warrington Town Council last week. Councillor Pemberton said, all the concessions made by the Government had a piece of string tied to them and could be pulled back, and the ratepayers would find they would have to provide the money. Councillor Henshall said there was nothing but an economic morass ahead, and the Government would do all it could to push corporations into that morass to escape it themselves.

* See paper on "Architectural Illustrations" read before the Architectural Association by Maurice B. Adams, F.R.I.B.A., Jan. 12, 1877, BUILDING NEWS, Jan. 19 and 26, 1877.

THE SOCIETY OF ARCHITECTS.

His Majesty's First Commissioner of Works, the Right Hon. Sir Alfred Mond, Bart., M.P., and Lady Mond, will be the chief guests of the Society of Architects at a luncheon, to be held at the Restaurant Frascati, Oxford Street, W., on Wednesday, July 30, 1919, at 12.30 for 1 o'clock.

The chair will be occupied by the President, Mr. E. J. Sadgrove, who will be supported by representatives of kindred societies, and of Government Departments and other public bodies.

The function will be the first of its kind held by the society, and will be of unusual interest. The subjects discussed will have a very important bearing on the work upon which the society is engaged, more particularly in regard to the education and training of architects, and the question of statutory registration.

During the afternoon opportunity will be afforded of inspecting an exhibit of students' work from the Ecole des Beaux Arts, Paris, at the society's premises, and also on Thursday, July 31, by arrangement with Mr. Arthur Davis, the patron of the First Atelier of Architecture in London, who will be present on Wednesday afternoon, at 4 p.m., and on Thursday evening, at 8 p.m., to explain the Beaux Arts methods of architectural education.

Members may bring visitors, including ladies. Application for tickets for the luncheon, 8s. 6d. each (not including wines), should be made to Mr. G. McArthur Butler, F.C.I.S., the secretary, before July 23, at the offices of the society, 28, Bedford Square, W.C.1.

"THE ARTISTS" AND THE WAR.

LORD FRENCH'S ELOQUENT TRIBUTE.

The Artists Rifles regimental dinner was held last Wednesday night at the Connaught Rooms, Great Queen Street, when some hundreds of past and present members of the corps assembled. Colonel R. W. Edis, who presided, read a telegram from Field-Marshal Viscount French as follows: "Deeply regret my enforced absence from you to-night. Please convey my heartfelt congratulations on the great part they have taken in the war now happily ended." To Colonel H. H. R. May, Lord French had written: "I cannot tell you how grieved I am that it is impossible for me to come over. I have no words to express all I feel for the splendid work which was done in France by the Artists Rifles during my term of command. I know also all they did subsequently."

Sir Aston Webb, President of the Royal Academy, proposing the toast of the regiment, remarked that the strength of the regiment in July, 1914, was 600. In a few weeks it was raised to its full strength, and in October, 1914, the first body went to France. After the first battle of Ypres fifty men were asked for by Sir John French, and these were found going into action as officers with their rank badges on their private's service dress. Sir Aston Webb evoked much laughter by reading out a quatrain, which, he announced, had been written impromptu at the dinner table:

Mars, he was the god of war;
He didn't stick at trifles.
Minerva said she didn't mind,
And hence the Artists Rifles.

Colonel May noted that out of a contingent of fifty "Artists" three had won the Victoria Cross—a record. The corps had contributed 10,000 officers to the Army and 2,000 members of the corps had been killed. He felt convinced that those who had given their lives would not want a war memorial to stop at bricks and mortar and brass, but would feel that their dependents had a claim second to none other. So far £4,800 had been contributed to such a scheme, which, in its entirety, aimed at £20,000.

The menu was an artistic production. On the front page Lord French was depicted flourishing a palette and brushes while a private soldier, with his eyes bulging out of his head, stood stiffly at attention.

Correspondence.

BUILDING BLOCKS FROM SEAWEED.

To the Editor of THE BUILDING NEWS.

Sir,—One of our foreign branches is asking us to trace a method of making building blocks from seaweed. The paragraph that has interested them is as follows: "Building Blocks from Seaweed.—A novel use has been found in London, England, for seaweed. Combined with crushed slag and other heretofore neglected waste mineral products, it is used to make a kind of concrete out of which are being fashioned building bricks and blocks. The seaweed acts as a binding and strengthening element. Arrangements are being made to put up a large number of houses composed entirely of these blocks, and it is predicted that the material, owing to its cheapness, will aid in solving the housing problem. Not only the foundations and the walls, but the doors, window frames and mantelpieces are to be constructed of the new concrete. The houses are to be made in sections and bolted together. The window-frame is a new idea in itself. The glass, in one large pane, slips into a slot, and the edges of moulding are then turned over, so as to grip it. To mend a broken window will be a simple matter and will not require the services of a glazier. It is said that dwellings made of the concrete will be warm and thoroughly damp proof."

We would be much obliged if any reader could let us have any information about this process or where we could get it.—Yours truly,

For the Hedworth Barium Co., Ltd.,

CHAS. ROLLIN,

Managing Director.

1, St. Nicholas Buildings, Newcastle-on-Tyne.

ARCHIBALD D. DAWNAY AND SONS, LTD.

Sir,—It has come to the knowledge of our clients, Messrs. Archibald D. Dawnay and Sons, Ltd., of Steelworks Road, Battersea, that rumours are afloat that, owing to the death of the late Sir Archibald Dawnay, our clients no longer intend to carry on business. Our clients desire us to inform the public through your columns that there is absolutely no foundation for this rumour; that the business will be carried on by them as heretofore; and that the late Sir Archibald Dawnay had taken very little active part in the conduct of the business for many years.—We are, Sir, Yours faithfully,

BULL AND BULL.

3, Stone Buildings.

Lincoln's Inn, W.C.2.,

July 7, 1919

Mr. Charles B. Barnes, deputy surveyor to the Gloucester Rural District Council, has been appointed district road surveyor to the Oswestry Rural District Council.

The Stokesley R.D.C. has passed plans for additions and alterations to the institute at Great Ayton. The cost, including furniture, is estimated at £1,200.

The North Bromsgrove Urban District Council have decided, subject to the approval of the Ministry of Health, to accept tenders for the erection of thirty houses at Rubery and twenty at Catshill, for the sum of £30,593. The tender was just over £100 per house in excess of the committee's original estimate of the cost.

A National Joint Industrial Council has now been established on the lines of the Whitely Report for the heating and domestic engineering industry, and the inaugural meeting held, the sittings extending over three days. A large number of subjects were considered, preliminary to further action, and the following office bearers elected:—Chairman, Mr. W. Nelson Haden, J.P., of Messrs. G. N. Haden and Sons, Ltd., Trowbridge; Vice-Chairman, Mr. Eli Clarke, Birmingham; Hon. Treasurer, Mr. E. S. Beal, C.C., 3, Monument Street, London Bridge, E.C.3.; Joint Secretaries, Mr. H. B. Watt, 12, Great James Street, London, W.C.1. and Mr. R. Sewell, St. Ivel Chambers, 246, Corporation Street, Birmingham.

Building Intelligence.

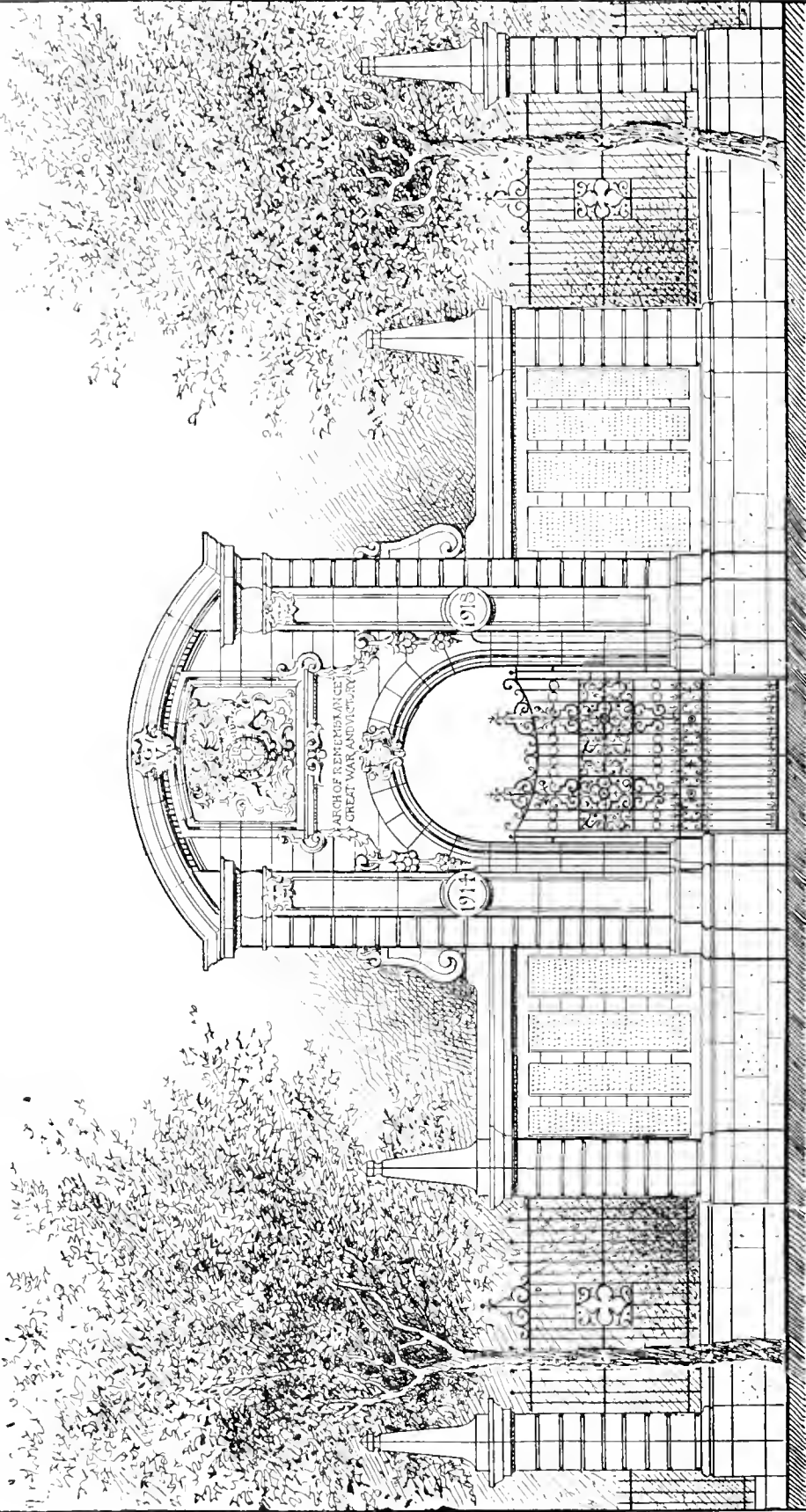
EDINBURGH.—The new tramway offices are at No. 2, St. James-square. These premises were recently purchased by the Corporation, and during the past six months have been under reconstruction in accordance with plans, and under the supervision of the City Architect, James A. Williamson, A.R.I.B.A. The building is five stories and attics in height. The basement is devoted to provision for the comfort of drivers and conductors coming off duty, with a well-equipped kitchen, mess-room, billiard and games room, and lavatory accommodation. A strong-room has been built and equipped with a fire and burglar-proof steel door. On the ground floor is a large cash office and public office for the purpose of enquiries, lost property, &c., ticket rooms, and the office for the chief cash clerk. A large general office is situated on the first floor, where, also, are the secretary, inspectors, and traffic inspectors, and drawing office. The general manager and traffic superintendent are on the second floor, with rooms for the accident department, typists, and traffic clerk. The remaining floors contain the employees' school, assistant engineer, uniform and lost property stores, parcels and working tailors, stationery store, &c. The cost of the buildings and relative reconstruction will be about £7,000.

MANCHESTER.—On the 1st inst. the Lord Mayor laid the first brick of 78 houses to be built with all possible speed on an estate at the junction of Queen's Road and Cheetham Hill Road. The houses will be two-storied, planned on the bungalow style. Each cottage-flat will have two living-rooms and two bedrooms, besides all modern conveniences, and the weekly rents will range from 8s. 6d. to 10s. It is hoped to have the houses ready for occupation by the end of the current year. This is the least of the committee's schemes, but not the least important. The next building scheme will be on the Blackley estate. It is intended in letting the houses to give precedence to persons who have served in army or navy, or to the families of deceased sailors and soldiers.

PROFESSIONAL AND TRADE SOCIETIES.

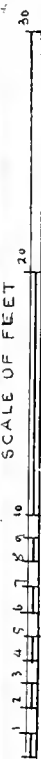
NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY.—A large number of members and friends of this Society, which includes Lincoln in their province, visited Lincoln on July 3. On the way to the Cathedral, the White Friars, the High Bridge, the Jews House, and other buildings of architectural interest were noticed, and a very pleasant morning was spent in the Cathedral and precincts under the genial guidance of Sir Chas. Nicholson, F.R.I.B.A., Bart., who had kindly come from London to conduct them. Wren's library and other portions not usually shown being visited, and a magnificent view of the city from the roof of the nave making a fitting finish. After luncheon, the Bishop's Palace was visited, and, although the weather was unpropitious, most of the party, which included ladies, braved the elements, and were shown the remains of the ancient buildings. Colonel Williams then met the party at the Guildhall, and explained in a most interesting and delightful manner the ancient Civic Insignia, which he had specially arranged for their inspection. These include a Richard the Second double-handle sword, a cap of maintenance, and a mayoral thumb ring, which conferred the privilege of an immediate holiday to the children whenever the bearer sent by the mayor showed it on his thumb at the school door. Hearty thanks were accorded to Sir Chas. Nicholson, the Very Rev. Dean Fry, and Colonel Williams for so kindly explaining the various subjects of interest, and to the president, Mr. H. G. Watkins, F.R.I.B.A., and to his brother, Mr. W. G. Watkins, A.R.I.B.A., for the excellent arrangements they had made. Tea at the High Bridge café concluded a most enjoyable visit.

PROPOSED ARCH OF REMEMBRANCE FOR CHISWICK TO BE BUILT ON TURNHAM GREEN, THE SITE BEING AT THE EASTERN END ON THE BOUNDARY LINE, THE GATES THUS FORMING A MONUMENTAL ENTRANCE, THE ROLL OF HONOUR OF A THOUSAND NAMES BEING SET OUT ON THE PANELS ARRANGED ON THE CURVED WING WALLS.



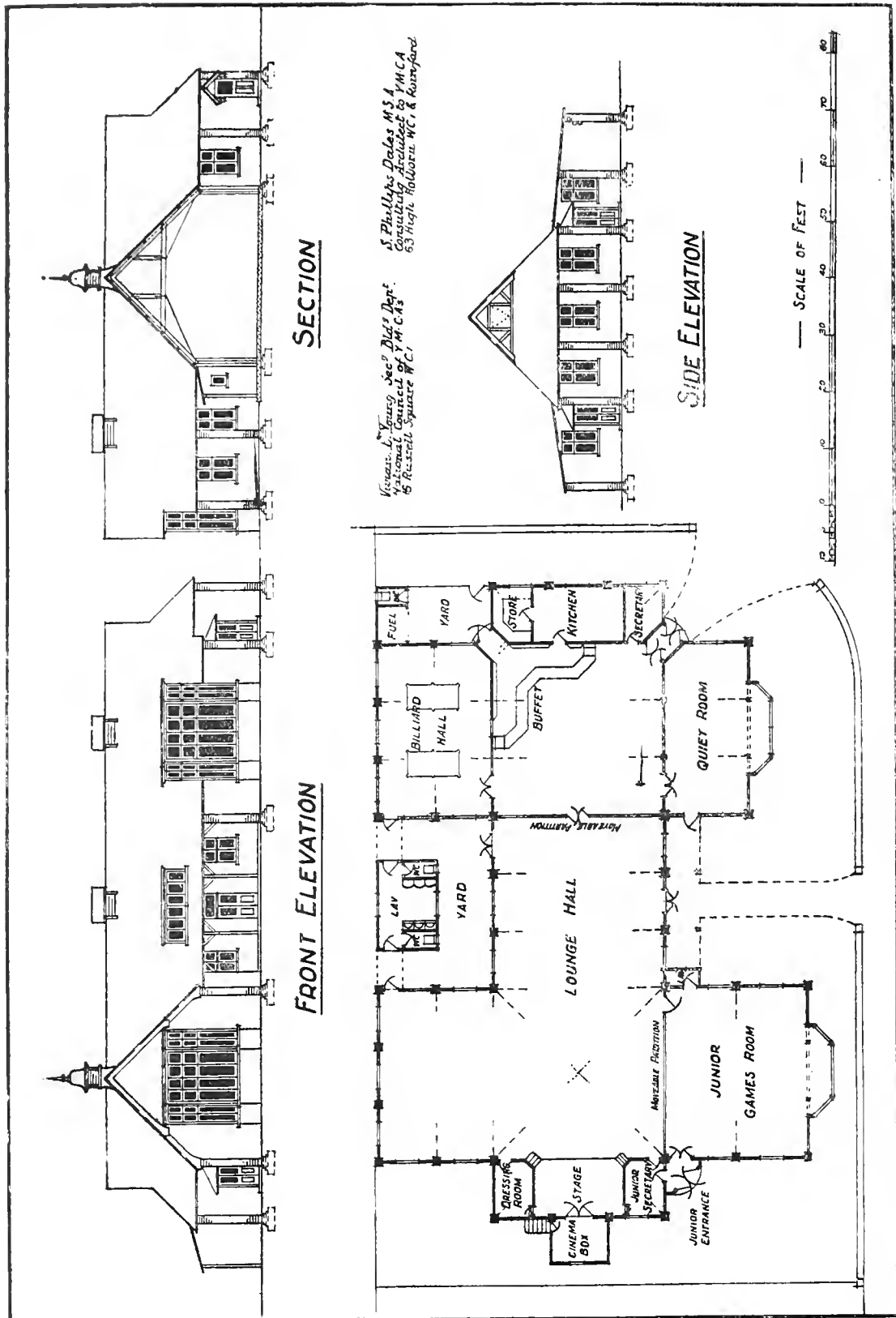
A BRONZE STATUE OF VICTORY: WILL IT BE EXPECTED SURMOUNT THIS WAR MEMORIAL

SCALE OF FEET



ELEVATION FACING THE GREEN

MAURICE B. ADAMS, F.R.I.B.A.
ARCHT. CHISWICK
JUNE 1919 LONDON W.



RED TRIANGLE CLUB FOR A LARGE VILLAGE CONSTRUCTED OF SALVAGED WAR HUT MATERIALS.—Mr. S. PHILLIPS DALES, M.S.A., Consulting Architect Y.M.C.A.



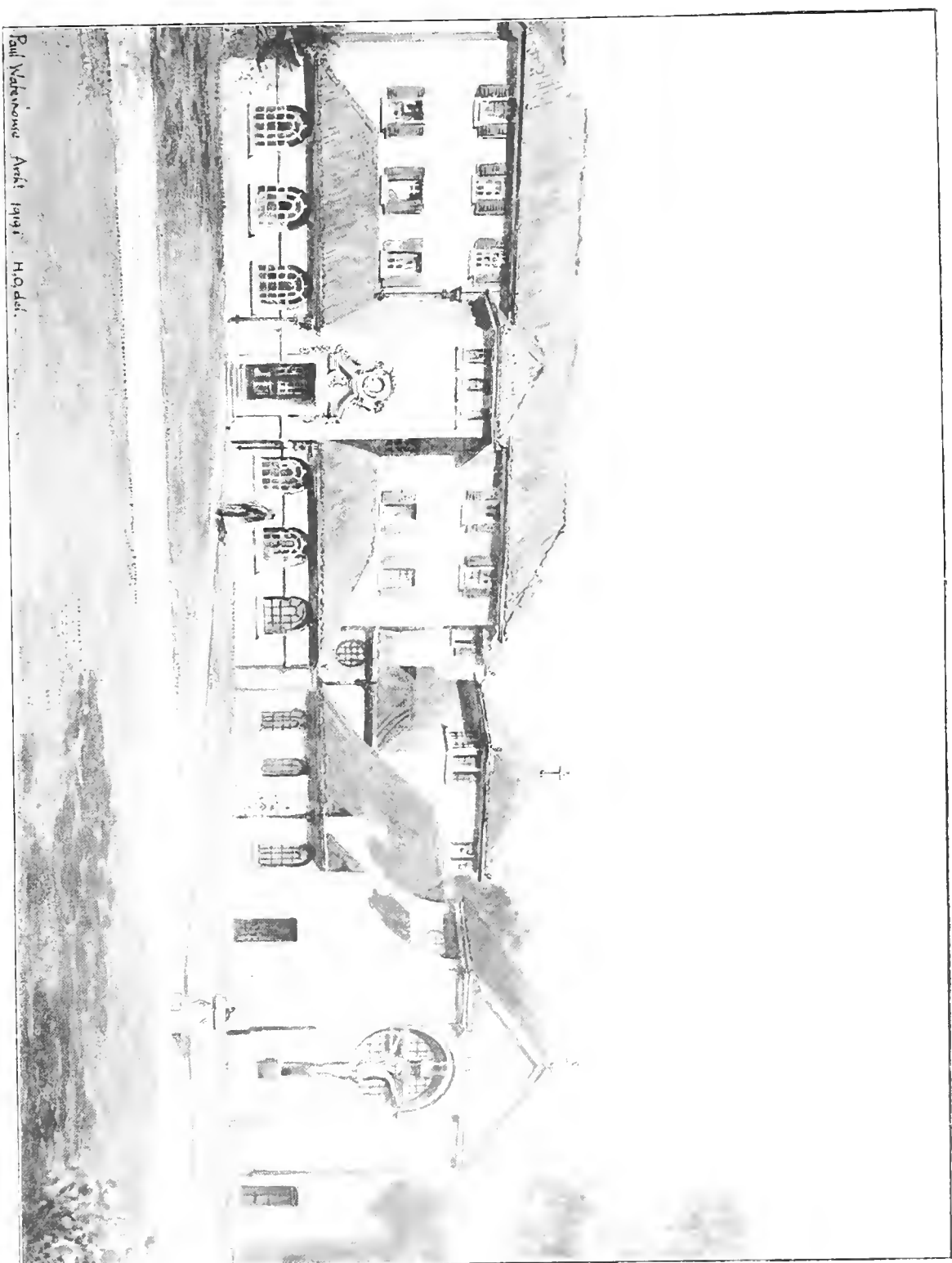
THE HOLT APPELDORPE N. DEVON.

THE BILLIARD ROOM

SYDNEY TATCHELL, F.R.I.B.A.,
ARCHITECT
25 GREEN ANNE STREET, E.C. 1.

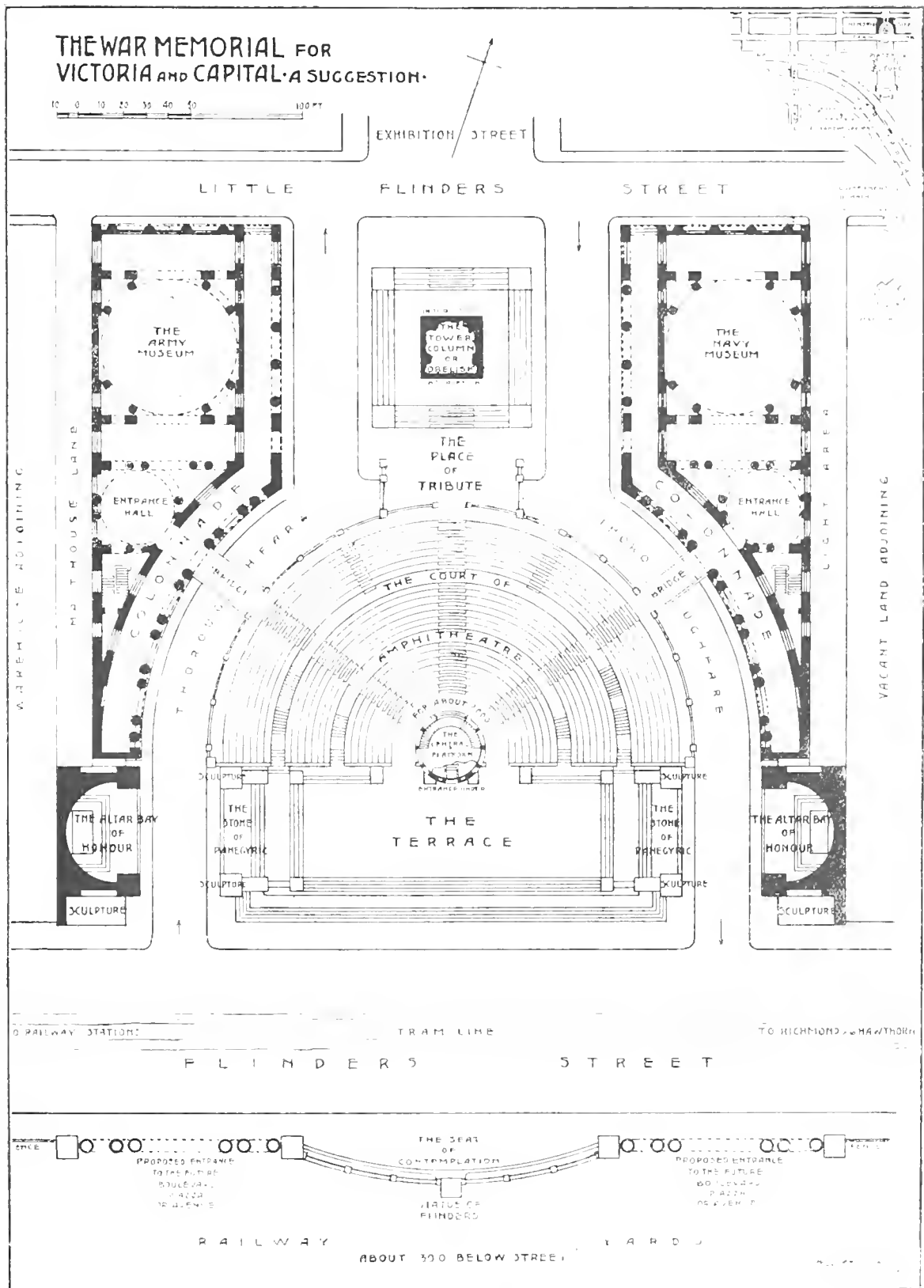
BILLIARD ROOM, "THE HOLT," APPELDORPE, N. DEVONSHIRE.

MR. SYDNEY TATCHELL, F.R.I.B.A., ARCHITECT.



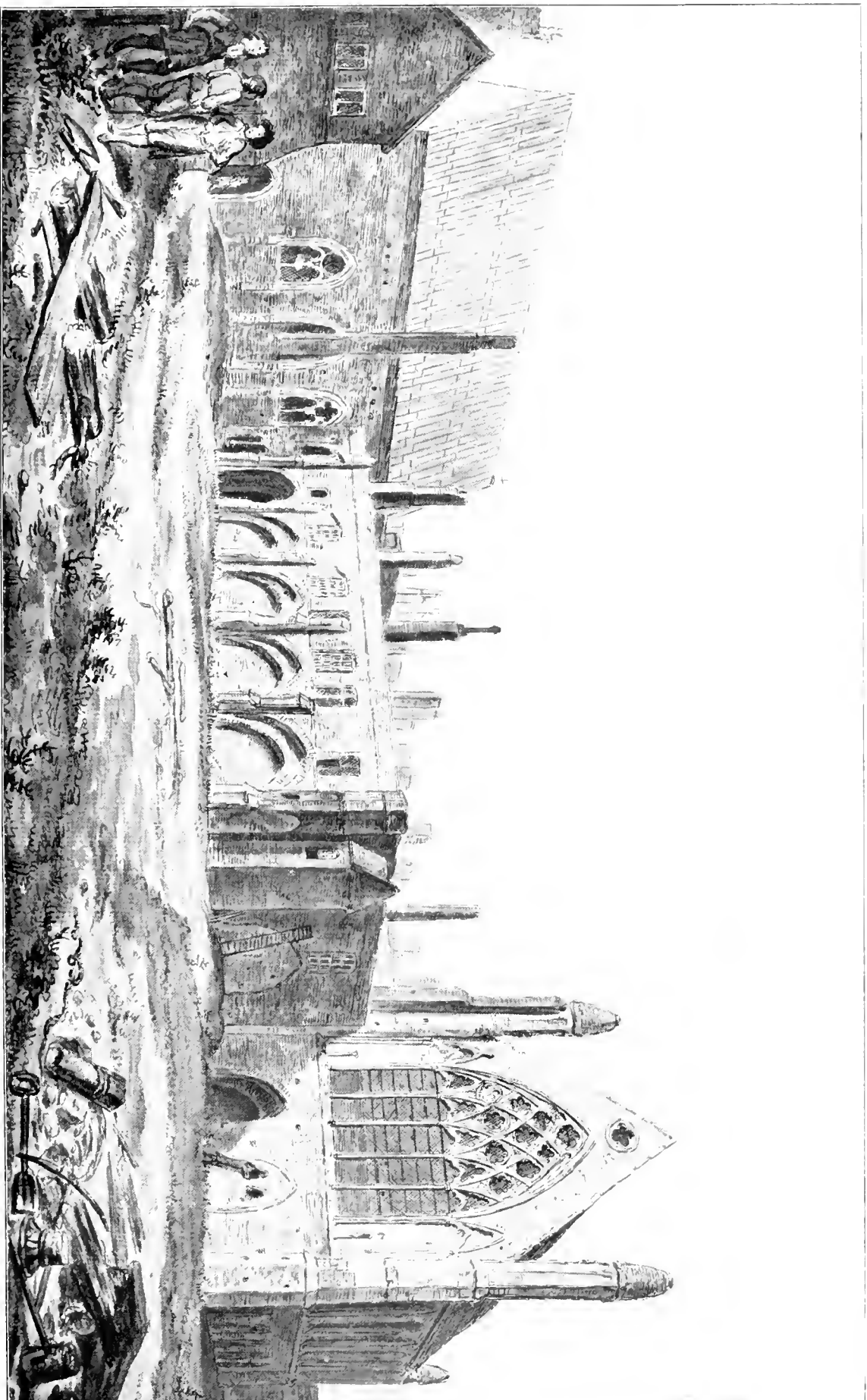
Paul Waterhouse and his staff.

CONVENT OF THE INCARNATION, OXFORD.
MR. PAUL WATERHOUSE, M.A., F.S.A., F.R.I.B.A., Architect.



Mr. WILLIAM LUCAS, F.R.G.S., F.R.V.I.A., Architect.

THE BUILDING NEWS, JULY 9, 1919.



THE HALL, CLOISTERS AND CHAPEL, ELY PLACE, HOLBORN, LONDON, A.D. 1776.
From a Drawing in Pen and Ink (Washed) by J. CARTER, Architect (1748-1817).

Our Office Table.

Worcester City Council considered the provision of sites for housing purposes on the 1st inst. The need of prompt provision was emphasised, and criticism was passed upon the attitude of the Local Government Board in respect of a site at Northwick Park which the Council had resolved to purchase at £5,000. The Local Government Board wrote that the purchase money was considerably in excess of the Land Valuation Department valuation (£3,900). This valuation was questioned by the Housing Subcommittee, who now recommended the Council to withdraw their application for approval of the site. In the opinion of the committee the district valuer's valuation was less than the real value, and, in the circumstances, the committee were not prepared to recommend proceedings for compulsory purchase. A letter was read from the Board asking the Council to submit an alternative site. Mr. Maund (chairman of the Housing Committee) said, notwithstanding this letter, the committee would not recommend another site. The Local Government Board were playing with the housing question in this country. They were using in a wickedly farcical manner a vital national scheme for the purpose of a paltry move in the political game. The public had been hindered and humbugged by this Government Department. The Board were making it impracticable for the Council to obtain proper sites. A similar thing had happened in respect of another site. In the case of the Northwick Park site they were almost up to the point of commencing work, but as things were they could not say when the congestion in Worcester would be alleviated. It was decided to decline to consider another site, and to press the Ministry of Health to approve the Northwick site without further delay.

A hopeful housing experiment has been tried in Long Island City, New York State, by an ingenious person who has constructed a compact four-room building, of a one-story bungalow pattern, which is practically a huge steel box and but for its windows would float like a ship. Its most novel feature is said to be an air chamber between the outer and inner walls, which establishes a vacuum and, like a thermos flask, preserves a fixed temperature as desired. It can be heated with less than half the quantity of fuel required for a conventional house of the same size. The building is made of a number of steel slabs three feet wide and eight feet long, which are joined, automatically adjusted, and maintained in such a manner that a cyclone or earthquake might bowl the house over but never separate it. The whole structure may be put together in a few hours by two men equipped solely with a wrench. One of its advantages is that it lends itself readily to extension, as it is possible to add section after section as long as one's purse holds out. The inventor expects to be able to produce these buildings for the market in quantities at a cost of less than £200 each. Outwardly they have been so camouflaged as to resemble a very fine grade of cement work and sand-plaster finish.

According to a pending application for a patent by P. J. A. Andouard, 32, Rue Kervégan, Nantes, France, cement and like surfaces are prepared for painting by coating the dried surface first with an acid solution to neutralise the basic elements in the cement and then with a resinous varnish to isolate on the surface the salts produced by the acid. The acid solution may consist of 300 c.c. of phosphoric acid of a density of 1.349, mixed with the white of twenty eggs and a sufficient quantity of water to make 1 litre. If this liquid is required to be kept indefinitely, 1 gram of sodium fluoride is dissolved in it. For the resinous varnish, 250 grams of colophony are dissolved in sufficient benzene to produce 1 litre.

The number of new Housing schemes submitted to the Ministry of Health by local authorities and public utility societies during the week ending June 28 was 232, a number well above the average of previous

weeks. The total number of schemes that have been submitted is now 2,750, representing considerably more than 30,000 acres. Housing schemes have now been forthcoming from more than half the urban authorities in the country, but from considerably less than half the rural authorities. Delay, in some cases, is attributed to anxiety and difficulty with regard to the raising of local loans to finance housing proposals. Experience in this matter seems to differ considerably in different localities, some local officials reporting an impossibility to raise loans locally, while others report no difficulty whatever. The relative advantages of brick and concrete are to be tried at Luton, where tenders for house construction in brick and concrete respectively showed a decided money advantage in favour of concrete. The Ministry have agreed to the building in concrete of a certain number of houses of the scheme as an experiment without prejudice to their decision in the case of the remaining houses.

Haddington Town Council are faced with an unusual situation in connection with their housing scheme. By a majority, the Council approved of the appointment of a local firm of architects, and thereupon Dean of Guild Burnett, Convener of the Housing Committee, resigned, he being strongly in favour of the selection of an Edinburgh architect. A special meeting of the Council was held on Monday week for the purpose of appointing a new Convener, but as all the members who were nominated declined the position on the ground that they could not afford the necessary time, Treasurer Ratray said the only thing the Council could do was to dispense with a Convener altogether, and simply go on without one. The Council subsequently met the architects, and considered various sites for the scheme.

It was stated last week that the Minister of Health had come to the conclusion that, having regard to the magnitude and complexity of the housing problem in London, the appointment of a Commissioner would not alone be adequate, and that he had decided to set up, in order to deal with cases arising in the metropolitan area, a small Housing Board, consisting of Sir Tudor Walters, Mr. E. A. Strauss, and Sir Kingsley Wood. This board will have the duty of advising and assisting in the promotion of schemes in the metropolitan area, and there will be appointed a chief administrative officer, to work in conjunction with the Board and the Director-General for Housing.

Mr. Walter Winans says that Sir Lionel Earle's letter on the equestrian statue of Charles I., which we quoted from the *Times* in our last issue, settles in his favour the controversy which has been going on for years between certain critics and himself. Sir Lionel says:—"Serious cracks were discovered in the near fore leg, at the base of the shank in front of the hoof" (i.e., the near fetlock); "the near foreleg supports the greater part of the weight of the statue." The critics called this "the finest equestrian statue." Mr. Winans said that the near foreleg was put on like the leg of a kitchen table when the corresponding leg had been sawn off. A real horse, and a properly modelled horse (as in the George III. statue), when one foreleg is raised, puts the foot of the other leg vertically below the centre of gravity (thereby avoiding all side strain), but this Charles I. statue, with its near foreleg in this ridiculous position, would fall over to the right unless the leg were screwed to the base. Sir Lionel has discovered the side strain has caused cracks in the fetlock, which, says Mr. Winans, is conclusive proof that he was right and the critics wrong when they called this statue a perfectly posed horse. Sir Lionel has also found the tail coming off, and in his letters several years ago Mr. Winans said this tail was stuck on like a match into an apple. Sir Lionel also says "the cast of the horse is very poor"; the critics called it "magnificent."

A good deal of metal furniture, remarks the *British Journal of Photography*, is now being sold which resembles wood—for example, desks, filing cabinets, cash registers, etc. In some cases this is painted by hand, the graining being done in the way made familiar by the house painter. Needless to

say, this is not particularly faithful, and the first improvement consisted in taking a selected plank showing a fine specimen of grain, cleaning it thoroughly, covering it with a suitable ink, squeegeeing off the excess, which leaves the compound only in the grain, then rolling over this with a composition roller of a circumference large enough to cover the metal sheet to be grained, then off-setting from the composition roller to the metal plate, baking, varnishing, and the graining is finished. This method depends on the fact that the grain is produced by differences of surface, but it does not give you any of the effect light may have on the grain independent of surface. For instance, in an oak, the big, flat grain will always appear white by this method, whereas in really good wood, if looked at in a certain way, these white patches of grain have a dark centre, which is not due to any differences of level of surface, but to the play of light. Now, all these delicate differences can be reproduced by photography, using, of course, suitable lighting, proper colour-filters, and a panchromatic plate. A half-tone negative is made, and from this a print on metal, which can be transferred by means of the composition roller; or the plate may be etched if any improvement is required to be done by the fine etching before the transfer is made. But perhaps the best effect of all can be obtained if a half-tone positive is made and from it a lightly etched intaglio plate, which is inked up, and the transfer taken from it.

The question whether wages shall be reduced in certain trades now that the cost of living is declining occupied the attention of the Court of Arbitration under the Presidency of Sir David Harrel at Westminster last Thursday. It was a new point raised before a tribunal which hitherto has mainly dealt with applications for increases of workmen's pay. The Soap, Salt, and Candle Trades Employers' Federation submitted a claim to reduce the present minimum war advance of 28s. 6d. from August next by a percentage equal to the percentage reduction in the cost of living, as quoted in the *Labour Gazette* for July, 1919, when compared with the figure quoted in the *Gazette* for November, 1918—the date of the last general advance. A counter-claim for 15s. a week advance in wages for those over eighteen, and 7s. 6d. under that age, with proportionate increases for pieceworkers, and the establishment of a forty-four hours' working week throughout the industries, was presented on the men's behalf by the Joint Committee of Salt and Chemical Workers and the National Federation of General Workers, who further asked for the consolidation into permanent wages of all increases granted during the war. The second case concerned a similar claim by employers to reduce wages in the chemical industries throughout the country, which was met by a counter-demand by the men for the conversion of war bonuses into established wages. In the third case the National Federation of General Workers supported a claim made by workpeople employed in the manufacture of explosives for consolidating all increases of wages granted during the war. Evidence on both sides was heard in private, and the decision of the Court in each case will be given in due course.

In George Butler's case the wife was the more striking and historic personality, for the name of Josephine Butler is known and honoured throughout Europe and America by all those courageous women who have fought for the sanctities of womanhood. Is there any other case, asks the *Guardian*, except that of the Lady chapel in Liverpool Cathedral where the windows are devoted to women saints so ancient as Miriam and so modern as Catherine Gladstone and Josephine Butler? Has any other schoolmaster's wife been enshrined in stained glass?

According to an estimate prepared by the Board of Inland Revenue, and issued last Thursday as a White Paper, there are 148 taxpayers in this country who have incomes of £100,000 and over per year. The taxable income of these is £27,600,000, and they pay in income-tax and super-tax £13,352,000. The number of persons with incomes of between £130 and not exceeding £2,500 is 5,286,900.

of whom 1,940,000 are entirely relieved from tax. The number of those with over £2,500 and not more than £100,000 is 59,100. The total taxable income is estimated at £1,970,000,000, producing an aggregate income from income-tax and supertax of £338,500,000. Of this sum £109,424,000 comes from taxpayers with incomes of less than £2,500 a year, while £165,595,000 is derived from the larger incomes. Other incomes, which principally consist of moneys held by various companies, bring in a total of £65,434,000. The net produce of the income-tax, apart from the supertax, is £296,000,000.

It is proposed to build a Wesleyan Church at Esh Winning, near Durham, at a cost of £5,000.

Mr. Rowland Plunbe, F.R.I.B.A., who died on April 2, has left £32,222. He gave £250 to his secretary, Alfred Henry Piddington; £500 to Caroline Cross; and £2,000 to Helen Hall, his nurse.

Mr. W. B. Dalton, for twenty years Director of the Camberwell School of Art, has retired. His main reason for retiring from scholastic work is the desire to start anew on his own account. His ability as a craftsman will have every opportunity for development.

Pleading for ex-Service men in the allotment of houses to be built by the Liverpool Corporation, Mr. F. A. Richardson (one of the Labour representatives) struck real pathos on the city council last Wednesday. "The house shortage is so acute," he said, "that I know of a Liverpool man who has had not only to go to Wigan to find a house, but has had to go to his mother-in-law."

A useful illustrated handbook on "Cork: Its Trade and Commerce," edited by D. J. Corkley, M.A., is issued by the Cork Incorporated Chamber of Commerce and Shipping. An interesting epitome of the past history of the city is given, and a full exposition of its present position as a manufacturing and trading centre. Its compilers are of no political party, and the volume is well worth study by English merchants and producers.

STATUES, MEMORIALS, etc.

BOYD-CARPENTER MEMORIAL.—Bishop Boyd-Carpenter, just before his death, was engaged in raising funds for the removal of Ripon Clergy Training College, founded by him in 1900, to more suitable premises and for establishing it on a more secure basis, contributing £500 to the fund himself. The Ripon Clergy College Corporation now desire to carry out the late Bishop's wishes, and have purchased suitable freehold premises in the centre of Oxford, which will cost, with necessary alterations, about £5,000. Contributions are invited by the treasurers, Canon Glazebrook, D.D., and Sir Richard Stapley, addressed to Barclay's Bank, High street, Oxford.

PUBLIC HALL AS LEVEN WAR MEMORIAL.—After a series of public and committee meetings it has been decided to build a town hall in Leven in the form of a miniature Usher Hall as a war memorial. The idea is to build a hall seated for 1,000 people, with a large platform and a space behind for an organ (not estimated for), siderooms, and a suitable entrance-hall to bear not only the names of those who have fallen, but also of those who went to serve. The cost, it is estimated, will be £6,000, exclusive of the site.

SELKIRK WAR MEMORIAL.—The scheme for the war memorial for the burgh of Selkirk was adopted last Wednesday. The scheme provides for the preparation of a Roll of Honour, the public reception of the returned soldiers and sailors on Peace Day, and the erection of a memorial, with the names of the fallen, numbering nearly 300, inscribed thereon, on a site at the corner of Ettrick-terrace and Chapel-place, opposite Selkirk Parish Church.

WAR MEMORIAL FOR STRANRAER.—The committee appointed report subscriptions received, £952 9s. 9d. Ninety per cent. of the subscribers desire the memorial should take the form of a monument. It was remitted back to the committee to select the design and arrange for the site and the erection of the memorial.

CHIPS.

The Portsoy T.C. has decided on a housing site at Dunn Road. Mr. Wittet, of Elgin, has been appointed architect.

The Ougar R.D.C. have appointed Mr. A. B. Roys, of Brizes Park, Kelvedon Hatch, architect for their housing scheme.

The West Riding Standing Joint Committee have authorised the architect to present a revised estimate for the erection of a new police station at Batley. Before the war the estimate was £6,300.

Sanction is sought by the Bicester U.D.C. to borrow £1,400, for the purchase of a site for working-class dwellings. The Housing Committee have selected Mr. H. W. Smith, of Oxford, as architect.

The Slaithwaite U.D.C. has decided to purchase land in Lingard's Road for a housing site. Mr. George Dyson, architect, of Huddersfield, has been appointed to make a rough survey of the road at Lower Wood, giving details required by architects submitting competitive plans.

The Leeds Corporation Improvements Committee has ratified the conditional contract for the sale of the site at the corner of Quebec and Wellington Streets for the erection of a theatre and large restaurant. The purchaser intends to spend upon the building alone nearly £150,000.

Dysart Town Council have appointed Mr. Walter Alison, A.R.I.B.A., to be architect under their housing scheme, at the remuneration to be fixed in scale by the Scottish Local Government Board. An offer was submitted from the Earl of Rosslyn's Trustees of 4 acres 23 poles of ground on the Blair Acre land at the price of £1,252 10s. (equivalent to a few of £15 per acre). The Committee considered the ground suitable and the price moderate, and recommended acceptance. They also considered plans by Mr. Alison, who was instructed to submit further plans to be sent to the Local Government Board. Councillors Campbell and Spalding said the price asked for the Blair land was excessive, and after discussion the Council agreed to ask the Local Government Board to take the price into consideration with a view to making a reduction.



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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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ILLUSTRATIONS.

Old Westminster Bridge, 1746-1748; The Abbey, Westminster Hall, and Lambeth Palace, by Canaletto. Graciously lent by H.M., the King from the Royal Library, Windsor Castle.

Strand, W.C.2

Imperial Delhi: The Viceroy's Court, with Government House in the background. Also the East Front of Government House. Sir Edwin L. Lutyens, A.R.A., F.R.I.B.A., Architect.
Detail of Doorway, Stetley Chapel, Chesterfield Road, Derbyshire. Drawn by Mr. Ernest W. Winks to scale.
Oak and Pewter Inkstand for the Vestry of a West London Church, out of old timber from the roof. A war memorial designed for the People's Warden by Mr. Maurice B. Adams, F.R.I.B.A. Working drawing.

Currente Calamo.

In Committee on the Housing Bill in the Lords, Lord Salisbury, at the instance of Lord Downham, moved, and the Peers accepted, an amendment which was designed, so Lord Salisbury said, to put a check on possible extravagance at an earlier stage than was contemplated by the Bill. The amendment proposed that a scheme made under Clause 1 should specify, in addition to the matters named in the Bill: (1) The total estimated cost of the scheme; (2) the estimated rent obtainable for each house or group of houses in the scheme; and (3) the estimated economic deficit resulting from the scheme, and the portion of that deficit to be charged upon the rates. As the Bill stood the operation of the Government check was against extravagance of administration. Under the amendment the restraint would begin at once and would operate in respect of the actual building of the houses as well as of the administration of the scheme when the houses were built. The difference between the two proposals was enormous. The local authorities would have great difficulties to contend with, not only in regard to the higher cost of labour, but because employers would be anxious to force up the cost of building in order that their own remuneration might be increased. That this was the case was shown by the fact that while the cost of labour was double what it had been before the war, the cost of building had been multiplied by three. We doubt whether the Commons will accept the amendment, though fully appreciating its object, but dissenting altogether from Lord Salisbury's opinion that it would help municipal bodies "to resist the attempts of the building trade to extort exorbitant prices." We see, as yet, no evidences of any such "attempt," and suggest that Lord Salisbury must know that his comparison of the increased cost of labour and the builder's estimate for building ignores altogether the heavy increases in the cost of material.

We are, of course, glad that the Government—in professions, at any rate, was more responsive to Lord Salisbury's further amendment, providing that every building scheme "shall take into account and as far as possible preserve existing

erections of architectural, historic, or artistic interest, and shall have regard to the natural amenities of the locality." The House of Commons, to do it justice, showed a disposition to amend the Bill in very much this fashion upon its own account; but it yielded to the cold water of Ministers, who professed that the Local Government Board could not properly be made a statutory arbiter in matters of taste, and that, of course, it would act upon these principles whether so directed or not. We hope the House of Commons will now insist that if Whitehall is, in fact, going to pay regard to "natural amenities," and so on, its obligations shall be set down in black and white. That done, there will be at least the possibility of calling the Department to account when it sanctions—as no doubt it will—the acts of vandalism whereof all Government Departments and most local authorities are guilty from time to time.

On Wednesday last the Bill passed through Committee after several useful amendments had been inserted, and a discussion on Lord Downham's amendment moving the omission of Clauses 41 and 42, which impose on local authorities the duty of preparing town planning schemes. He said neither of the clauses were in the original Bill. They were carried as an amendment on the last day the Bill was in Committee in the House of Commons. He especially protested against the provision in Clause 42 which empowered the Local Government Board, in the default of the local authority, to authorise the County Council to act in their place, and at the expense of the local authority, in respect of town planning. Viscount Midleton supported the amendment. Lord Islington said those clauses were an afterthought, and were autocratic in character. Their omission would in no way hinder the provision of new houses. The Lord Chancellor said it was true the clauses were not in the Government Bill as originally drafted. It was obvious, however, that there should be some direction in relation to the very large number of new houses that were to be constructed in order to safeguard the beauty of the countryside. He agreed that Clause 41, which imposes on local authorities the arbitrary duty of preparing schemes, had perhaps not been fully considered in the Commons, and he was willing to agree to its dele-

tion, but he could not agree to the omission of Clause 42, which leaves it to the Local Government Board to require schemes to be submitted where they are satisfied such schemes should be prepared. The Marquess of Crewe agreed that Clause 41 was not essential, at any rate in its present form. The motion for the deletion of Clause 41 was agreed to. Lord Downham said that if on the Report stage the Government would put down the amendments he would be content to withdraw his motion to delete Clause 42. The remaining clauses and the schedules having been agreed to, the Bill as amended was reported to the House.

The three Increase of Rent Acts, 1915, 1918, and 1919, are causing some trouble in the Courts, and meanwhile making money for the lawyers. They were all Emergency Statutes hastily passed in the worry of the war. They now form a pretty puzzle, a sort of triangle of technicality, which gives each suitor a chance of getting out at one of the three corners. The recent case of "Stovin v. Farebrass" is likely to become a leading authority; it has had a long run from the County Court to the Court of Appeal, and may yet finish in the House of Lords. The house in question was rated below £26, and so came within the Principal Act of 1915. Plaintiff, as landlord, gave her proper notice to quit; defendant, as tenant, refused to budge. In the County Court, it came out that plaintiff had since sold the house, with the condition that she would give the purchaser possession at end of September, 1918. The Judge then thought he had discretion under the words "some other ground" in the Act of 1915, and made the order. Then the High Court reversed this ruling as being all wrong. Plaintiff pluckily went up to the Court of Appeal, where the three Lords Justices thought it all out. They held that the words "some other ground" in Act of 1915 must mean something! They further found that the Act of 1919, passed in April while the case was pending, was retrospective, and so they decided that the County Court judge might, after all, now be right in his view, although quite wrong before. So they sent the case back to this Judge to decide whether or not, at the date when it comes to him again. The Act of 1919 has given him discretion once more to make the order for possession, as he did in December, 1918! It seems a bit of a tangle, but it

shows the way out for sellers and buyers of houses to-day.

More resignations and more eating the leek by Mr. Bonar Law, in the evidently determined absence from the repast of his chief the Prime Minister, are multiplying the signs that another General Election is not far distant. Who is the persistent pal that Ministers feel they must muzzle with a Parliamentary Under-Secretaryship and a fat stipend lest he turns and bites his luckier place-seekers already bribed to help keep Parliament in its present stage of vassalage? The Lords would not have him at the Health Ministry, and the Commons have shut the door to him at the Transport Bureau-cracy, which is presently to worry the life out of all of us who depend on freedom of transit and reasonable rates of carriage; why not make him Minister of the Press, with full powers to subsidise all fractious papers with big orders for copies, to be burnt quietly when unpleasantly fractious? Something must be done, or, one fine night, this Ministry of all the Talents will come down with a crash, and the usual protestations of our next supermen of their desire and ability to bring about the millennium will herald the usual subsequent scramble for its first-fruits.

In a letter to the *Times* of July 9, Mr. H. Heathcote Statham draws timely attention to the present danger, which is hardly realised, of having the "sham picturesque" in cottage building inflicted on us. As he says, the old cottages are dear to us from association, and it is rashly supposed by many people that the way to make new cottages picturesque is to build them like the old ones. He and we have seen the effects of this form of superstition both at Letchworth and at Hampstead. At Letchworth the high-roof superstition was so prevalent that over and over again, in going over the first houses erected there, there is scarcely headway up the stairs owing to the "hip" rafters of the roof coming down so low that one has to duck one's head to pass them, and the upstairs rooms are too low against the walls and higher than necessary in the centre, and the slopes of the ceiling were cut into by dormer windows—the most inconvenient form of window internally, however "picturesque" they may look externally. At Hampstead many of the windows are too small; in this climate small windows are not hygienic. In many of the kitchen living-rooms the fireplace to be used for cooking has the light on the wrong side, owing to faulty planning. A left-hand light is required for a cooking range, otherwise the operator is always in her own light. It is obvious that in both these "garden cities" the objective was more picturesque than practical, and that is an essentially wrong basis to start on. Mr. Statham's concluding advice is excellent: "Build as well as possible in regard to convenience and right use of material, and the picturesque will create itself in time. You cannot force it artificially."

The battle of the London University sites is being renewed. Both the Senate and the County Council rejected the proposal to house London University at Bloomsbury, but the advocates of this scheme will not confess defeat. So at a recent meeting of the Council of the University of London Graduates' Association a resolution was passed unanimously recording an emphatic protest against the irregular and secret attempts which have been made to secure a reversal of the authorities' decision. The Council reaffirms its objections to the policy of concentration of university institutions at Bloomsbury, and, while willing favourably to consider the County Council's proposal of a riverside site, is not disposed to support the removal of the headquarters from South Kensington unless and until the Treasury expresses its willingness to provide better accommodation with equally advantageous conditions of tenure in a more convenient locality. In the event of a riverside site being found impracticable, the Council of the U.L.G.A. would favour the allocation of the whole Imperial Institute building to the purposes of the University.

"Every boy his own plumber," and every girl too, will be the rule under the new Education Act. Practical instruction in the use of common household appliances is to be part of the curriculum, and the Royal Sanitary Institute have drawn up a scheme to match. Children are to have explained to them the uses of taps, locks, waterpipes, filters, gas burners, etc., and then are to be taken on a personally conducted tour round the school to find the taps and plugs and see how they work. Inasmuch as it is commonly experienced that gas and water always go wrong on a Saturday afternoon—preferably before a Bank Holiday—harassed housewives will probably welcome the prospect of being able to apply to Tommy or to Mary Jane on the spot. And if we are to have all the patent dodges advertised in the Model Homes Exhibition—electric mangles, mechanical bottle-washers, home telephones from backdoor to attic—the home electrician will be even more necessary than the plumber.

It has been decided to build a chapel at St. John's Church, Lytham, from the plans of Mr. Frank W. Mee, architect, Manchester.

At a special meeting held at Brigg, Lines, by the Urban District Council, Mr. Ernest Hutchinson, of "Solheim," Bradford Street, Cleethorpes, was appointed architect to prepare the lay-out plan of their proposed housing scheme, which comprises the erection of approximately 200 houses.

In quoting Sir Alexander Stenning's letter to the *Times* last week we forgetfully described him "Mr." Alexander Stenning. We very sincerely apologise, and ought to have known better. It is nearly ten years since Sir Alexander's knighthood was bestowed on him in well-merited recognition of the profession to which he has rendered such signal services.

The work of the session 1918-19 in the School of Architecture at University College was brought to a close on Thursday, July 3. Donaldson Silver Medals, presented by the Royal Institute of British Architects, were awarded to Mr. W. E. Dow and Mr. A. R. El-Sukkary; the Trevelyan Goodall Scholarship was awarded to Mr. B. L. Sutchiffe. The Lever prizes in town planning were awarded as follows:—First prize, Mr. R. W. Lahey; second prize, Mr. A. St. B. Harrison.

ANNUAL PRIZES AND SCHOLARSHIPS AT THE ARCHITECTURAL ASSOCIATION.

On Friday last a crowded gathering at Bedford Square, chiefly students, but very few old members of the Association attended to support the President, Mr. Maurice Webb, at the Exhibition of Drawings and Yearly Prize Distribution. The marked increase of the number of class memberships, and the character of the designs exhibited now that the war is over naturally was expected, but the fact that so many overseas architectural students are for the present availing themselves of the special advantage afforded by the Architectural Association before returning to the colonies mainly accounts for the demands made upon the inadequate capacity of the Bedford Square premises. Recently, indeed, the Architectural Association has had to seek additional accommodation temporarily in the adjacent House of the Society of Architects in Bedford Square, but the increased normal work of the A.A. will be amply provided for when the class-rooms now in course of building are finished. The introduction of lady students also has added to the number of students, and the work of the past year has again shown that the women working in the architectural schools have done excellent work, as shown by the list of successes in the 1919 Prize Calendar, and the striking capacity for colour shown by two or three of the lady students.

Mr. Maurice Webb welcomed their colonial friends back from the battlefields and now working in the Architectural School, the largest in the kingdom, while awaiting the time of their return to their homes, and commented on the gallant work done at the front by the architectural students of England, and specially by members of the A.A., one out of every seven who responded to the call of the nation having been killed in action, died from wounds, or been permanently disabled, a record not exceeded by any other school or profession.

The near future of the Architectural Association Schools is likely to witness their conduct on a much wider scheme, probably with the co-operation of the Royal Academy, it being proposed to incorporate in the work of the classes a course of specialised study for Arts and Crafts students, so as to promote unity of aim and efficiency of application in conjunction with the Mistress Art. In this way specialisation in various and useful directions may be possible, and this on lines not realised hitherto in the Art Schools at Burlington House, although all the students have to attend the architectural and sculpture lectures as part of the school course. It was stated at Friday's meeting that at the conclusion of the proceedings the President of the Royal Academy, Sir Aston Webb, R.A., and Sir Reginald Blomfield, R.A., were expected to make a private inspection of the drawings and designs exhibited in the several rooms so as to judge whether the type of work and style of draughtsmanship displayed were commensurate with the development suggested. Meanwhile, the President stated that the most capable lecturers available had been engaged to deliver a series on particular subjects during the oncoming session in the schools. The outlook, notwithstanding the present difficulties hampering reconstruction in all directions, is very encouraging.

In the exhibition the third year students, of course, show the most distinguished designs, and generally it may be said that the standard of the past session is satisfactory, and chiefly by the ab-

sence of too stylish a general prevailing influence, though even now a little more individuality would evince a healthy emulation of independent purpose and originality. Mr. G. C. Clark has done best during the year and wins the "Henry Florence" studentship of £50. His four chief drawings being hung flanking the windows on either side made any close examination of his work very difficult, but his design for a central monument in a French Battlefield Cemetery seemed scarcely so successful as the same subject treated by Mr. Hugh G. Grierson hanging close by on the return wall and in a better light. Mr. Clark makes more of the pavilion idea of his centre-piece by the two detached columns of composite type and the niche with a weeping female figure in front. On the returns are two more seated statues, the effect being rather heavy and short in proportion, whereas the more appropriate idea probably for such a structure would be realised by vertical and aspiring lines. Mr. Clark's other studies show an all-round industry, and the "Roman Door," "Roman Windows," Italian courtyard in manner, and a scheme for a hot climate bungalow of Oriental character make up his total average of distinction superior to the rest. The French graveyard scheme and the monumental bridge furnished the chief subjects of importance. The figure frieze in the plinth of Mr. Grierson's clever proposal for the former, though small in scale, attracted our attention, but on the whole his scheme of terrace and segmental enclosure walls round the circular Corinthian-ordered centrepiece depended on dignity of outline and simplicity of contour spire-like pointing to the sky. Mr. C. M. Bartley has a good drawing with a Neo-Grec note not so good and square. We also saw Mr. Greenwell's plain pilastered erection, rather suggesting a ventilating shaft. Mr. H. L. Massey takes the second prize in the third year for his cottage prize design, done, among other things, in the schools.

In the second year class Miss E. G. Cooke wins the Travelling Studentship. Her work includes a large bold study of entrance gates backed by big trees. "Priors Park" is displayed, fitted up with flags, etc., for Peace Decorations, and a nice club for a village. Her details show much knowledge of architectural construction. Miss Lowy takes the second prize, but her drawings suffer from careless mounting, and the plans are set out in too casual a way. Her gateway is shown more in the open and a sunny effect of good colour. Her wing walls differ, one side being concave, and the other convex in plan, which seems odd-looking. Her Italian composition is ambitious and indifferent.

The "Henry Jarvis" Scholarship designs for a monumental bridge and other constructional drawings by Mr. R. K. Thomas are the most workmanlike examples of study shown in the exhibition.

The following is the complete list of the prize winners for the year:—

Entrance Scholarship, tenable for one year in first year course. First year: 1st prize scholarship, tenable for one year in second year course, Mr. D. Petrovitch; 2nd prize, "Howard Colls" studentship, £15 15s., Mr. F. N. Chamberlain; 3rd prize, books value £5 5s., Miss H. B. Robinson; general progress prize, books, £2 2s., Mr. C. G. C. Hy-slop; art subject prizes (books, £2 2s.), Mr. K. E. Black; (books, £1 1s.), Mr. R. J. Masey. Mentions: Mr. C. Dunch, Mr. P. J. B. Harland, Mr. J. E. Sterrett.

Second Year. 1st prize, A.A. travelling studentship, £25 5s., Miss E. G. Cooke; 2nd prize, books value £10 10s., Miss R. Lowy; scholarship tenable for one year in third year course, Miss W. Ryle; general progress prize (books, £3 3s.), Mr. A. S. Whitburn; art subject prizes (books, £2 2s.), Miss R. Lowy;

(£1 1s.), Miss W. Ryle; (£1 1s.), Mr. A. S. Whitburn; (£1 1s.), Miss E. K. D. Hughes. Mentions: Mr. A. Blomfield, Mr. W. A. Devereux, Miss I. Graves, Mr. C. N. Hollinshead, Miss E. K. D. Hughes, Mr. W. Perrik.

Third Year.—1st prize, "Henry Florence" studentship, £50, Mr. G. G. Clark; 2nd prize (books, £15 15s.), Mr. H. L. Massey; 3rd prize (books, £10 10s.), Mr. H. L. Curtis; general progress prize (books, £5 5s.), Capt. A. G. Stephenson, A.I.F. Special mentions (short time only in school): Mr. C. Greenwell, Mr. J. D. Moore. Mentions: Mr. E. W. Armstrong, Mr. A. M. Bartley, Mr. R. C. Blampied, Mr. M. K. Driffin, Mr. A. S. Farmer, Mr. F. E. Greenish, Mr. H. C. Grierson, Mr. R. B. Hamilton, Mr. C. G. Masters, Mr. E. S. C. Millar, Mr. J. G. Warwick.

"Henry Jarvis" Scholarship (value £40), Mr. R. K. Thomas; 2nd prize (books, £10 10s.), Mr. L. F. Irwin. Mentions: Mr. L. Claydon, Mr. C. M. Masters, Mr. L. Wyatt. Alice Stanhope Forbes Prize (best colour work in school), £5, Miss R. Lowy.

PRIVATE ENTERPRISE VERSUS STATE AND MUNICIPAL MONOPOLIES.

The most extravagant of all political fallacies, says Mr. Buckle in his "History of Civilisation," is that the civilisation of Europe is chiefly due to the ability which has been displayed by the different Governments, and to the sagacity with which the evils of society have been palliated by legislative remedies. "No great political improvement, no great reform, either legislative or executive, has ever been originated in any country by its rulers. The first suggestors of such steps have invariably been bold and able thinkers who discern the abuse, denounce it, and point out how it is to be remedied. But long after this is done even the most enlightened Governments continue to uphold the abuse and reject the remedy. At length, if circumstances are favourable, the pressure from without becomes so strong that the Government is obliged to give way; and, the reform being accomplished, the people are expected to admire the wisdom of their rulers by whom all this has been done."

The accusation which the historian brings against every Government is that it has overstepped its proper functions, and at each step has done incalculable harm. "To maintain order, to prevent the strong from oppressing the weak, and to adopt certain precautions respecting the public health, are the only services which any Government can render to the interests of civilisation." The efforts of Government in favour of civilisation are, when most successful, altogether negative; and when more than negative they become injurious. For national purposes, the maintenance of a navy and army, judges and courts of law, magistrates and police; for local purposes, the maintenance of streets, roads, and sewers—that embraces all the things with which the functions of Government are legitimately concerned. If Government, national and local, were restricted to those functions, its primary duty might be well done. Once Government oversteps its proper functions, the results are, as all can see, disastrous neglect on the one hand, and on the other incalculable harm wherever Government interferes with what should be the sole and private concern of individuals.

With the history of the inherent evils of State interference before them, it is amazing that so many people in the British Isles to-day should regard with approval the proposals now being hatched by the Legislature, or the schemes formulated by visionaries and revolutionaries to make the State omnipotent in directions where it should merely "hold the ring," and to transfer to the hands of tax- and

rate-paid officials vast trading and commercial undertakings which are the result of private effort, upon the continuance of which their future success inevitably depends.

It is airily suggested that the railways, docks, harbours, canals, coal mines, and land should be converted into State monopolies and "worked in the interests of the whole community," in the same manner as the postal, telegraph, and telephone service. One would have thought that the long-sufferings of the public under the State postal monopoly would be a sufficient warning against encouraging the State to add to its already illegitimate functions. At any rate, the Government should first of all make an effort to convert that notorious example of hidebound incapacity, muddle-headedness, and inefficiency into something approaching a creditable business enterprise, before venturing in other spheres of trading and commercial activity. In such a simple matter as the collection, distribution, and delivery of letters and telegrams the State has confessed itself a ludicrous and lamentable failure, and the postal monopoly has for long been the object of universal ridicule and reproach. Private enterprise, which originated the letter post, the telegraphs, and the telephones, has been prohibited from supplying public wants, and the public is eternally at the mercy of a State monopoly, from whose incompetence and vagaries there is no escape. Here we have what Mr. Herbert Spencer calls "the stupidity, the slowness, the perversity, the dishonesty of officialism" triumphant. And yet, forsooth, the public stand passively by while Government proposes to put our railways, docks, harbours, canals, coal mines, and, it is suggested, our land and our liquor, under the same deadening and fatal system!

If the State postal monopoly is not a sufficient warning against State trading and Government control of industry, surely the years of the Great War supply glaring examples of the pernicious and disastrous effects of State meddling. In a state of war, Governments must necessarily adopt measures—often hasty and ill-considered measures—that result in suspending the ordinary industrial activities of the people, and in establishing social and economic conditions that are applicable only to times when the national life has become abnormal. But in a state of peace, when personal freedom is essential to contentment and happiness, when the trades and industries of the country are dependent upon the full exercise of individual ingenuity, and when all the resources of private enterprise should be exhausted in a supreme effort to re-establish our commercial relations at home and abroad, proposals which unsettle the public mind and breed a feeling of insecurity as regards the future are a grave menace to national prosperity and certain to retard, if not wholly to discourage, every endeavour to regain the wealth which the great world struggle has absorbed.

The story of Chepstow Shipyard and Slough Depot is a conclusive answer to the advocates of State trading. Is the nation prepared to see the same monstrous system of reckless waste and extravagance established all over the country? Are the taxpayers willing to bear the burden of the loss that would follow the Chepstowing and Sloughing of the railways, docks, harbours, and coal mines? In a word, are the people of Great Britain prepared, without a protest, to see their country converted into a veritable warren of officials, whose growth can never be checked, and whose domination will become irresistible? In "The Coming Slavery," Mr. Herbert Spencer reminds us that every extension of the regu-

lative policy involves an addition to the regulative agents—a further growth of officialism and an increasing power of the organisation formed of officials. "Take," he says, "a pair of scales with many shot in the one and a few in the other. Lift shot after shot out of the loaded scale and put it in the unloaded scale. Presently you will produce a balance, and if you go on the position of the scales will be reversed." He uses the figure to illustrate what results from transferring one individual after another from the mass of the community to the mass of officials, who, coherent, with common interests, and acting under central authority, would have an immense advantage over an incoherent public which had no settled policy, and would be eternally subject to official rule.

The present demand for the demobilisation of the bureaucracy, which has swollen to such huge proportions during the war, is a healthy and encouraging sign that the public is, in one respect at least, alive to the dangers of official control. No one who has tasted "Government ale" can view with equanimity the prospect of a State liquor monopoly. And no one who reflects upon the fate of his country had the State owned and controlled all our transport, trades, and industries at the beginning of the war, and if we had not possessed the boundless resources private enterprise had created for every move against the enemy, can contemplate the prospect of State ownership now and in the future without a shudder. A well-known authority on agriculture has just expressed the opinion that to make the State the great overlord of all the land, with its minions as paid officials, would establish conditions under which the agricultural industry could not long survive. For generations, he says, we have been working to free ourselves from the feudalism of the Middle Ages, and now we are asked to set up a system which would take us back to the Dark Ages, and, by making the future uncertain, prove fatal to agriculture. Thousands of our farmers, he predicts, would leave the country; and the land, instead of being more highly cultivated, as would be the case under free conditions and private enterprise, would gradually become a sheep-run, as it was in the fourteenth century. What is true in this connection as regards the land is true also of all other industries upon which "the State" lays its blighting hand.

While the State-Socialist politicians at Westminster are promoting measures to oust private enterprise from the control of the great industries of the country, and to rob capitalists of the fruits of their investments, the Socialist Labour Party in Parliament has been seeking legislative powers to enable municipal authorities to "take over" any and every private business within their area, and to make municipal monopolies of all the varied trades which supply the private wants of the community—from beefsteaks to bootlaces, from motor-cars to milk, from candlesticks to cauliflowers, from bacon to books, from bread to bicycles, from ale to anchovies, from saucapans to soap, from potatoes to potash, and so on all through the list of a "universal provider." It is submitted by the promoters of this "Enabling Bill" that, since municipalities have powers to trade in gas, electricity, water, tramways, omnibuses, and other so-called "public services," they should also have the power to trade in anything and everything they may choose. Here is seen the influence of evil precedent. The Bill secured the support of twenty-five members of the House of Commons on the motion for second reading. The number of supporters may seem insignificant, but the demand will be pressed by those who have set themselves

the task of eliminating private enterprise from our national life, and putting into its place an all-powerful official class which will control our every act from the cradle to the grave.

To the question, "What has private enterprise done for the world?" the answer is: "Everything that has been worth doing, and which has proved worthy of being done." To the question, "What has the State done?" the answer is: "Nothing but make excuses for its own blunders." Private enterprise has made civilisation. By those who regard civilisation as "a curse" private enterprise is naturally abhorred. But those who rejoice in the great facts of modern life, and who appreciate man's conquest over so many of the rude forces of Nature, regard it as beneficent; and to these, the vast multitude of the intellectually developed peoples of the earth, the prospect of a reversion to the social slavery of the dark and middle ages is not one that appeals to the sense of the fitness of things, since it implies the re-forging of fetters from which they have long shaken themselves free.

The future of Great Britain depends upon the freedom of its industries, trade, and commerce from the restraining power which "elected persons" in Parliament or the municipality are seeking to exercise to the national detriment, and upon the maintenance of those every-varying conditions that are essential to true and continued progress. Without the spur of private enterprise to that constant activity upon which its very existence depends, the nation, under State and municipal monopoly, would soon sink into a lethargy from which there would be no awakening. With a perfectly free initiative those two agencies known as capital and labour are capable of winning yet higher laurels of fame. Let those who have the best interests of their country at heart see to it that private enterprise has that fair play which is its merit and its due, and always bear in mind what has been called "the great truth, that one main condition of the prosperity of the people is that its rulers should have very little power, that they should exercise that power very sparingly, and that they should by no means presume to raise themselves into supreme judges of the national interests, or deem themselves authorised to defeat the wishes of those for whose benefit alone they occupy the post entrusted to them."

The Prince of Wales has approved of the insertion of a "fair wage" clause in all contracts for building on the Duchy of Cornwall estate at Kennington.

The L.G.B. has approved the plans prepared by Mr. H. Chippindale, of Guiseley, for fifty-six houses which it is proposed to build in the urban district at Rawdon.

The directors of the London County Westminster and Parr's Bank, Ltd., have declared an interim dividend of 10 per cent. for the half-year ending June 30 on the £20 shares (£5 paid). The dividend, 10s. per share (less income-tax), will be payable on August 1.

The fifth and last sale at Paris of works left in his studio at his death by the painter M. Edgar Degas has concluded. The 1,840 pictures, drawings, pastels, sketches, and studies offered for sale produced the grand total of £433,313. This sum surpasses all previous records for Paris art sales, except the total reached shortly before the war at the Doucet sale, which was £533,780.

Mr. Frank H. Heaven, A.R.I.B.A., P.A.S.I., architect, of Aberkenfig, Glam., has been appointed as first Housing and Town-Planning Assistant under the Pontypridd Urban District Council, who propose erecting some 1,600 to 2,000 houses in their area. Mr. Heaven is at present in communication with the Advisory Committee of the Local Government Board respecting a trabeated style of construction in reinforced concrete members, which would eliminate the use of timber throughout for constructive purposes.

Our Illustrations.

OLD WESTMINSTER BRIDGE,
DRAWN BY CANALETTO (1746-1748), SHOWING WESTMINSTER HALL, THE ABBEY CHURCH, AND LAMBETH PALACE.

By consent of H.M. the King we gave a reproduction in our issue of June 25 of Canaletto's fine drawing, looking eastward from one of the arches of old Westminster Bridge down the Thames, showing St. Paul's Cathedral in the distance, before Hungerford and Waterloo bridges were built. To-day, by Royal permission, we reproduce the same famous Venetian artist's companion picture from Windsor Castle Library, looking west, giving a full view of "Old Westminster Bridge," as seen from midstream at the time it was erected. The western towers of the Abbey Church of St. Peter were also comparatively new, having been completed in 1739, about fifteen years after the death of their designer, Sir Christopher Wren. The four queer towers of the curious classic church of St. John the Evangelist figure well to the south-west of the Great Hall at Westminster, with its old fleche turret as it then stood in the position of the new one just lately finished by Sir Frank Baines, of the Office of Works. St. Stephen's Chapel is also included in the scene, and on the Surrey side the Archbishop's Palace at Lambeth is very prominent by the water's bank. The familiar tower of the Parliamentary Church of St. Margaret figures conspicuously above the picturesque roofs of the old houses in Bridge Street, long ago pulled down and giving sites for the lower part of Whitehall and the Houses of Parliament, designed by Sir Charles Barry and Welby Pugin. "Old Westminster Bridge," commenced in 1738, was opened in 1750, soon after Canaletto made this drawing. It served for over a hundred years, and then gave place to the present iron-arched bridge, which was erected between 1859 and 1861, the widest of all the Metropolitan bridges over the Thames. Canaletto was born in 1677, and died in Italy in 1768. This drawing measures 19 inches by 9 inches, and is finished in pen lines with washes. It may be of interest to add that after our illustration above referred to was published on June 25, an appreciative correspondent, congratulating us on the excellence of our reproduction, wrote to ask if a mistake had not been made in the title, as he was under the impression that the arch framing in the view must have been part of Waterloo Bridge. This could not be the case, because John Rennie, the engineer, did not commence Waterloo Bridge till 1817. J. Lennell Bond, the Parliament architect for Waterloo Bridge, designed it, but in execution Rennie made some changes and carried out the work. London Bridge was also built by Rennie, at a cost of £2,000,000, and he finished it in 1825.

GOVERNMENT HOUSE, IMPERIAL DELHI.

Sir Edwin L. Lutyens, A.R.A., lends us to-day the general view of the Government House, from the Viceroy's Court; and a second drawing also, by Mr. Walcott, shows the East Front more in detail. We have given several of the Royal Academy series of pictures of this great undertaking in the carrying out of which Mr. Herbert Baker, F.R.I.B.A., is associated with Sir Edwin Lutyens. Our previous reproductions will be found in our issue of May 7, with a plan of the Government House and

the official description; and others in those of May 21, June 4, 25, and July 2. Further views from the same exhibition will appear shortly with large-scale plans. The general lay-out plan was printed in our issue of June 25 last.

AN OAK AND PEWTER WAR MEMORIAL INKSTAND FOR A LONDON CHURCH VESTRY.

The working drawing reproduced is self-explanatory, so a few words will suffice. The desire was to produce a quaint-looking, old-fashioned inkstand, fit for a vestry table. Being in old oak, the scantlings decided its shape, and it had to harmonise with the available stuff. Mahogany and walnut are essentially different in colour, texture, and character from old oak. This had to be recognised by avoiding delicate mouldings and details suitable to new, hard woods, but not applicable to old timber long exposed to insects, weather, and time. The wood in question had formed part of an ancient roof. The shakes made the sounder stuff cut to waste, and, anyhow, the breadth and simplicity left little choice; also, the purpose which the inkstand has to serve had to be kept in mind. The inkpot commonly seen in church vestries is devoid of interest, generally very dirty and utilitarian, seldom worth stealing. The pens provided are begrimed and ill adapted to legible writing. Considering the legal importance of parochial registers and the value of churchwardens' accounts, this negligence is curious, but so long as choirboys have the run of vestries and vergers remain so casual, unlocked drawers become rubbish collectors, and if the parish inkstand does possess a drawer for keeping pens, it only adds another receptacle for oddments and useless derelicts. This one is unpretentious, solid, and practical, and intended as a little parish war memorial from the people's warden, for whom it was designed by Mr. Maurice B. Adams, F.R.I.B.A.

DOORWAY: STEETLEY CHAPEL, DERBYSHIRE.

This beautiful example of late Norman work is near the Chesterfield Road. The chapel, built by Gley le Breton, dates from 1150. It is thought to be the place in which the "Holy Clerk of Copmanhurst," Friar Tuck, entertained the Black Knight, as described by Scott in "Ivanhoe." The building of which we give a plan is 56 ft. long, and consists of nave, chancel, and apse, each separated by arches of great beauty. The whole was originally covered by a vault "excellently enamelled with gilt." The apse is now the only portion which still retains the vaulting. The restoration in 1881 included a timber roof of simple design over the nave and chancel. The doorway is on the south side, and previous to the restoration was composed of four receding arches supported on columns. The fifth arch was added in 1881 on the old foundations discovered at the time. The inner arch is simply moulded. The second arch is enriched with beakhead ornament, its columns being treated with interlacing foliage. The third arch with the zig-zag ornament is typical of the period, its columns being ornamented with medallions and signs of the zodiac, and on the capitals is carved a syren—a subject rarely met with in England. The fourth arch is moulded. The plain detached columns supporting the outer arch were added at the restoration as was the peculiar triangular pediment above. Our illustration is reproduced from a drawing by Mr. Ernest W. Winks, of Worksop, Notts.

BUILDINGS AS A FACTOR IN PRODUCTION COSTS.

Buildings as a factor in production are often either not considered at all by managers and production men, or the influence of buildings and their parts on production costs, are not usually given their proper credit.

A building housing a manufacturing industry of whatever character, should be considered as a machine; and due to its first cost, expense of maintenance and cost of depreciation, should be thought of, and always considered the most important machine of the plant.

Unfortunately, some managers overlook the importance of the buildings which house their plants, and quite frequently do not correctly charge in their production costs all of the items properly chargeable to building; as, for example, interest on the cost of building and land occupied, maintenance, insurance, depreciation, etc. In so far as a manufacturer can reduce these fixed charges, other conditions being equal, he will be able to produce cheaper than his competitor; and while these items of fixed charges are costs that must be paid, irrespective of the type of building occupied, yet their relative amount is determined or controlled to a large degree by the adaptability of the buildings when considered as a huge machine fitted to the peculiar operations of the industry, and may be further controlled by the type of building irrespective of its adaptability.

Perhaps it would aid our discussion if for a moment I imagine myself the president or manager of a successful growing manufacturing corporation whose business has outgrown the plant and where conditions are such as to forbid any attempt at plant enlargement, thus necessitating the construction of a new plant specially designed to meet the present and probable future needs of the business.

Let me therefore, in the light of my experience, in aiding in the successful solving of such problems, tell you how I would proceed. I would at the outset frankly admit that I did not have a monopoly of human knowledge. That while I was proud to be known as the guiding spirit of a successful business my success, or rather the success of the business which I own or control, of which I am only one unit, should not be considered as sufficient justification for me to assume that I could, unaided, design and create a new modern manufacturing plant. I would pursue the same method of solving this problem that I daily use in operating my present plant, and that is to frankly admit that this is the day of specialists, and that in order to secure the best I must employ the best experience obtainable. Therefore, the first thing I would do would be to employ an architect. I would make him my confidant as to my plans, my financial resources, my prospects, and my dreams for the future. In short, I would give him that same degree of confidence that I give to my family physician or to my attorney, and more than I ever gave to my minister.

Having placed the problem in the hands of an architect, let us follow very briefly the work of the architect.

His first duty will be to make a careful study of the equipment, methods of production, etc., of the present plant it is proposed to abandon. He will interview shop superintendents, foremen, etc., and in this way become familiar with the present shop production. It is often even desirable to make a study of shop practices in other plants producing the same general class of goods. A few such study days will usually be sufficient to enable an architect to prepare a preliminary block plan of the new plant that would probably work out most satisfactorily. This block plan, however, will have been prepared without reference to any particular locality. It will deal with the problem broadly and without reference to building types, but will indicate the number of buildings, general grouping, number of stories, etc., that would be required properly to house the industry.

This block plan will then be submitted to Mr. President and discussed in detail, and it is very desirable that it be discussed and criticised not only by the president and manager, but by production managers, shop superintendents, etc. After the conference a new block plan would be prepared. This plan would then be re-submitted and at this conference the general type of buildings should be discussed. This method of approaching a problem by preparing tentative plans and revising same will be pursued until the best plan for the particular business in question has been developed.

At this stage another expert must be employed, the Realtor, an expert real estate operator. The realtor will be given a copy of the ideal plan, and his advice requested as to the best possible location, and here is where many plant managers fail. They do not rely enough on the advice of their realtor as to location. The successful realtor is a man who knows not only real values, as well as the tendencies in the development of a city or community, but he knows transportation, he knows where the various classes of skilled mechanics reside, etc., and his problem is to find a piece of property as near like the ideal block plan as it is possible to secure. The price of the land must be carefully considered and must have a certain well-known relation to the cost of the proposed improvement.

Then after the property is secured, either by lease or direct purchase, the architect must revise his block plan to fit the land secured. Then, after the general plan has been tentatively approved, the question of the type of the various buildings must be determined.

Briefly, insurance interests recognise three general types of building—ordinary, mill, and fireproof. These may be either sprinklered or unsprinklered, and in each general type there may be many modifications made that will affect insurance charges, but in determining the general types, as well as the degree of modifications to be made in the type selected, other questions than the one of insurance must be considered.

First, initial cost or the maximum funds that are available for buildings. Quite frequently an owner may be convinced that the type actually determined on is not the ideal one, yet the item of first cost may compel its adoption. Very briefly, all insurance interests consider the type of building known as standard mill sprinklered the ideal factory building; but please note that the standard mill building is one with all stairs and elevators enclosed by brick walls, all doors in same self-closing fully approved fire-doors, all windows in exposed walls fireproof with fire-resisting glass, and in which there are no horizontal or vertical openings unprotected, and in which no floor is less than 3½ in. in net thickness. Such a building is given the same insurance rating by the large insurance underwriters as is given to a so-called fireproof structure, even if sprinklered, and with all horizontal and vertical openings protected as required for a standard mill structure; and a rating approximately one-tenth of that given to a so-called fireproof structure if unsprinklered.

Factories of ordinary construction, if unsprinklered, carry such a high rate of insurance that their occupancy by any manufacturing concern, unless as a temporary expedient, is bound to be unprofitable, as in many cases the insurance rate is even greater than the interest charge on the plant investment, and it must be remembered that insurance rates are based on the tables of actual losses from which there is no appeal. I have had many clients who questioned the justification of the underwriters in making the same rate on a fireproof building, even if sprinklered, as they do on a standard mill sprinklered structure, yet it must be conceded that experience has proved that a fireproof structure is, as a matter of absolute fact, a reverberatory furnace, and that the actual percentage of loss by fire in fireproof structures is greater in proportion to insurable values than in standard mill sprinklered buildings.

Another factor in determining the general type of building is its adaptability to change for other uses; the readiness with which

* An address by F. E. Davidson, A.I.A., M.Am.Soc. C.E., before the Western Efficiency Society, Chicago, May 14, 1919.

alterations or changes may be made in the structure as the business to be housed develops, or as improvements in machinery are developed and shop processes change. Changes can readily and inexpensively be made in timber structures, but extensive changes in fireproof structures can be made only at great expense, and in the case of fireproof structures, known as flat slab, changes cannot be made at any time without endangering the stability of the entire structure.

There are in addition to the questions above noted some additional arguments in favour of the standard mill factory building. One of the principal ones which has recently been brought to the writer's attention is the fact that a skilled artisan will not work if compelled to stand on a concrete floor, if he can secure employment at equal wages in a standard mill building. Many owners of fireproof buildings have had trouble in keeping help, due to this reason only, and in some fireproof factories it has been necessary, to cover the concrete floors with a layer of asphalt, or to place cork carpet or wood thereon, in order to render the factory "habitable."

There is yet another argument in favour of the standard mill building, which in any large city should be given serious consideration, and that is the salvage value of the building itself. We all know that a standard mill building can be wrecked, and if the work is carefully done all the structural material can be used in another structure, whereas in wrecking a concrete structure there is no salvage. In fact, I have been quoted by one of the largest contracting firms in Chicago a price for the wrecking of a monolithic concrete building which amounted to a trifle more than one-half of the original cost of the buildings, and our American cities are growing so rapidly that it would indeed be a courageous investor or at least one blessed with a prophetic vision, who could predict as to what particular use a certain piece of property would be best adapted for twenty-five or thirty years in the future.

Now, as to depreciation. A factory building of ordinary construction should be given a depreciation charge of at least 10 per cent. annually, whereas a factory of standard mill construction should be depreciated not to exceed $3\frac{1}{2}$ per cent. per year, and a fireproof structure at a rate of at least 3 per cent. per annum.

As to items of maintenance: It is, of course, evident that as much outside painting, and in fact as much interior painting and calcimining, or whitewashing, will be required for a fireproof building as for a building of standard mill construction. Practically the only thing which wears and must be replaced in a mill building is the finished flooring. I do not know of any accurate records of maintenance cost of a standard mill building which will average more than three-fourths of 1 per cent. per year. Yet, on the other hand, I do not know of any records of the maintenance charges on fireproof buildings which will average less than one-half of 1 per cent. per year.

As to the first cost, which item will determine the annual interest charge, if we take the cost of the standard mill sprinklered building at 100 per cent., the cost under present conditions in the market of both labour and material for a standard fireproof sprinklered structure will be equivalent to approximately 120 per cent. and for ordinary construction about 85 per cent.; but here, again, local city regulations have a bearing on the problem. Large unobstructive floor areas are desirable in any manufacturing plant, and while under any and all city and state regulations anywhere, buildings only one story in height may have any floor area, irrespective of the type of construction, yet the owner will find that there is an economical maximum, even when first cost is considered, if the building is sprinklered, for the reason that the size of fire-pumps, tanks, water supplies, etc., are determined by the maximum floor areas between fire walls to be protected, and even if sprinklered that the insurance underwriters will place a gradually increasing charge for floor areas in excess of a certain well-established minimum.

I will now speak very briefly of some of the appurtenances to factory buildings. The question of heating is one of the most important, but this question is related to that of power. Should power to operate the plant be secured from central station and a boiler plant installed to provide heat only, or should an independent power plant be installed and heat be secured as a by-product from the operation of the power plant? There are so many factors to the equation that each proposed industrial plant must be separately analysed. Some of the factors to the equation are: Is live steam required in connection with manufacturing operations? Is the power load fairly constant or subject to excessive variations? What is the proportion of the total maximum power load to average heating load, etc.?

Having determined whether a power plant or heating plant should be installed, the next question is, if heating plant only, what system to install. Whether hot blast or direct steam, and, if direct steam, whether single pipe gravity, two-pipe gravity, or vacuum. This question will be easily solved by determining the amount of radiation required and the distance from the heating source.

The question of elevator service is also an important one, and the proper location of elevators in any building is one frequently ignored. As to type of elevator, the rapid development of the modern electric machine has been so successful that it may be unconditionally recommended for most installations. Care must, however, be taken to deal with manufacturers of known standing.

Under the sub-heading of travelling cranes might well be included conveying apparatus of all kinds. This is truly an age of machinery, and the greatest problem any manufacturer will be compelled to solve in the future is how to conserve man-power. The problem of securing sufficient experienced labour to operate any plant to-day is most serious and will grow more acute in the years to come. Therefore, particular study should be given to any plant design to adopt all labour-saving devices that have proved successful, particularly in relation to the handling of raw materials and the finished product, and frequently the incomplete output. I might discuss this topic for hours, but let it be sufficient to say that if it is true that he who can cause two blades of grass to grow where only one grew before is a benefactor of mankind it is equally true that any production man who can devise a means whereby one man, with the aid of machinery of any kind, can produce as much as two without this aid is also a benefactor of his race.

Referring to the subject of plumbing, it will be sufficient to state that the general improvement in the invention and manufacture of plumbing specialties and their installation during the past twenty years has been greater and more advanced than any other specialty allied to building. The importance of scientifically installed plumbing is now so well recognised that its installation is regulated by both State and local authorities everywhere. Owners of large industrial plants have found that the installation of the very best plumbing specialties is in the end the cheapest when first cost and maintenance are considered.

In the solution of all of the problems, your architect will call to his assistance many experts. This is an age of specialists, and while every successful architect must needs have a working knowledge of all the arts and trades he must assemble to produce any building, yet the time permitted by the requirements of his client for speed forbids that he should in person do more than co-ordinate the work of many experts into an orderly and harmonious whole.

Permit me to offer this thought to you plant managers and to you future captains of industry, that whenever you have a new plant to build always employ an architect. He has something to sell you not possessed by any other professional man on earth. He has a vision, a power of visualising the possibility of your business that some of you do not possess, and remember that an architect is every kind of an engineer ever invented.

As a civil engineer he must be familiar with

all of the various types of building construction, and the peculiar adaptability of various methods and types of construction to meet varying conditions.

As a sanitary and hydraulic engineer he has to do with water supply and sewage disposal.

As an insurance engineer he must be familiar with the requirements of all insurance underwriters, and know how to secure for his client the minimum insurance charges.

He must be a production engineer, able to so lay out and group the various manufacturing departments so as to secure, as far as is mechanically possible, the lowest cost in production.

He must be an efficiency engineer, able to advise his client in the proper selection of the mechanical aids to production.

He must be a mechanical engineer, able to advise his client as to the power and engine-room equipment, and honest enough to advise against a power-plant equipment if power can be purchased cheaper than it can be produced.

He must also be an illuminating engineer, a structural engineer, as well as several other kinds of engineers whose exact status has not yet been legally defined, in addition to which he must be a skilled diplomat and a mind-reader. He must be familiar with the general principles of law, and be as well a successful business man. He must be a diplomat in dealing with his client, as it is a peculiar fact that, while a man is willing to trust his law business to the judgment of his attorney, his life and the lives of his family to his family physician, his religion and future life to his spiritual minister, yet, when it comes to the design of a manufacturing plant, in ninety-nine cases out of every one hundred he knows more about economic design than any architect could ever hope to learn if he lived to be as old as Methuselah. Therefore, the architect must be a diplomat in the broadest sense, as it would be absurd in many cases to give a client that for which he asks. So that he must, in reality, while apparently doing one thing, be able to accomplish by *finesse* what he knows his client should have.

As an architect, he should be able to give to the design of plant an individuality that will at once indicate for what purpose the plant was designed, and not follow blindly one of the three modern Chicago architectural schools to which the writer will refer as, first, the Chicago River Renaissance; second, the Stock Yard Byzantine; and third, the Calumet Saracenic. He must ever have in mind the self-evident fact that the handling of men more than the operating of machinery is the big problem in manufacturing; and in the design of any industrial plant, no matter how small, the comfort of the employees of that plant should ever be borne in mind. Labour is always more efficient and, therefore, more productive in a well-lighted, well-ventilated, sanitary shop, and the experience of many large manufacturers has proved that the fee of the landscape gardener and his assistants always pays larger dividends on the sums so invested; and remember that in the detailed design of your plant you should give your architect a free hand after you have determined on the essential things that you think you must have. If you will do this he will make your plant not only all that you demand, but he will put into it some of himself that will make your plant a better place not only to manufacture goods, but a better place for your employees to spend a large share of their lives. Artistically designed buildings cost no more than others, but beauty and harmony in surroundings add something to the conditions under which your employees are compelled to labour, and these conditions will react to increase the output of your products, with correspondingly greater profits to your company.

Landscape gardening, recreation-rooms, gymnasiums, rest and reading-rooms, all pay, and pay probably greater dividends than any other investment made in connection with any new industrial plant.

A long discussion followed a proposal by the Housing Committee of the Nottingham City Council to appoint a Director of Housing for the city at a salary of £600, and the matter was eventually referred back.

AN OAK INKSTAND FOR PARISH VESTRY OF A WEST LONDON MUNICIPAL CHURCH
IN MEMORY OF THE FALLEN IN THE GREAT WAR AND VICTORY 1914-1918 — THE DESIGN FOR BENTLEY

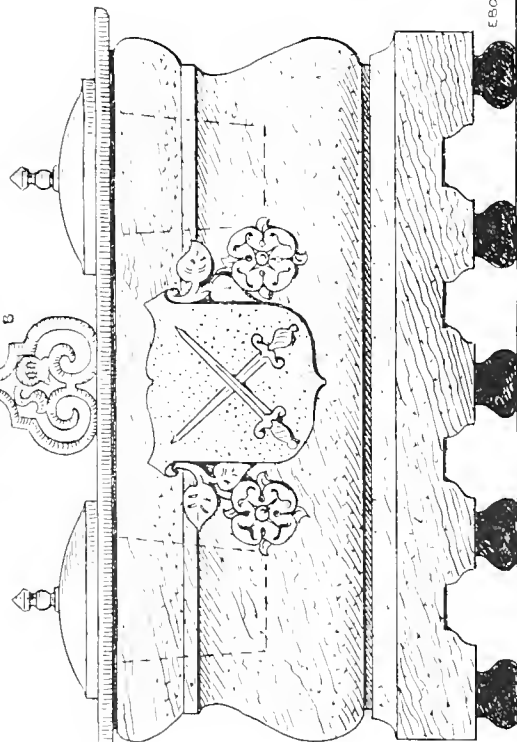
INTENDED FOR A GIFT BY
THE PEOPLES CHURCHWARDEN
1919

PEWTER
RACK

Working Drawing

DESIGNED FOR EXECUTIVES
IN OLD AND PRESENT
FROM THE ANTIETAM
OF THE CONGRESSIONAL
FULLY 10 DOWN YEARS TO

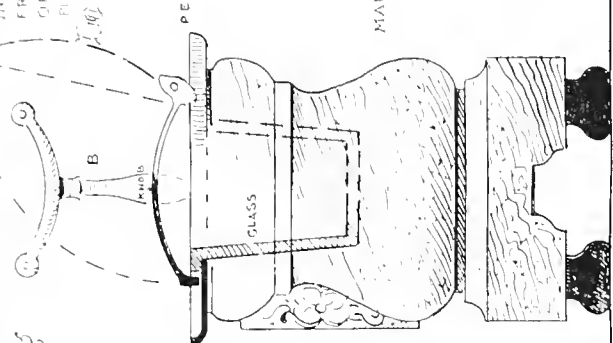
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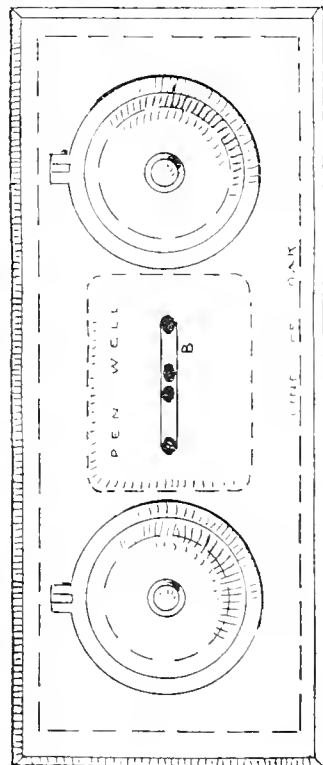
FROM FEET

MAURICE B. ADAMS FRIEDMAN
ARCHITECT
BEDFORD PARK WAY
JUNE 1919

DEWTER TRAY ON OLMS

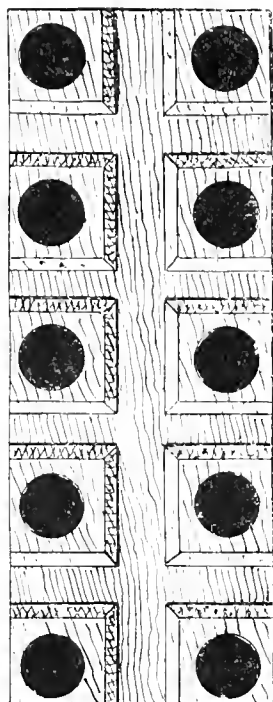


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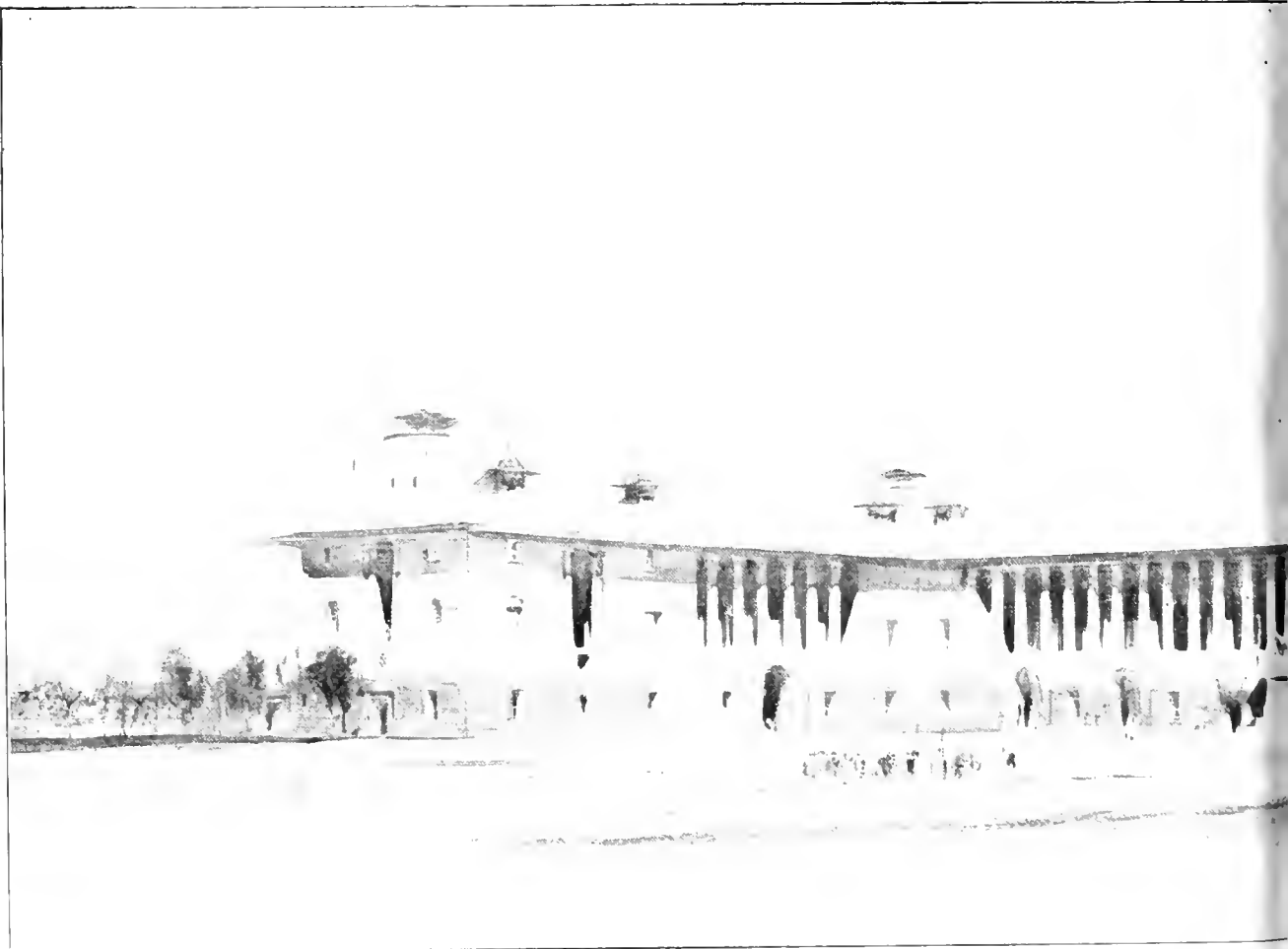
TOPICAL

PLAN OF BOTTOM LOOKING UP

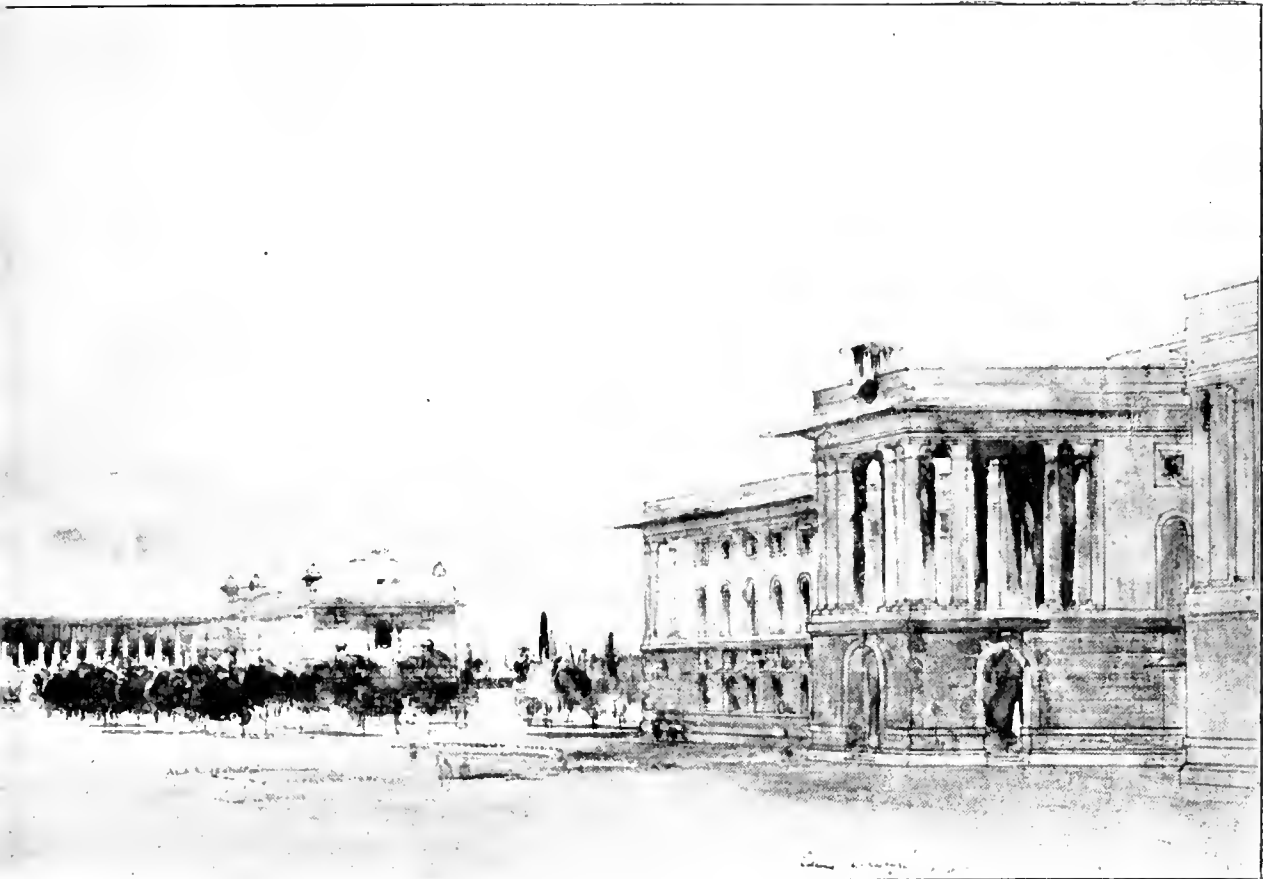




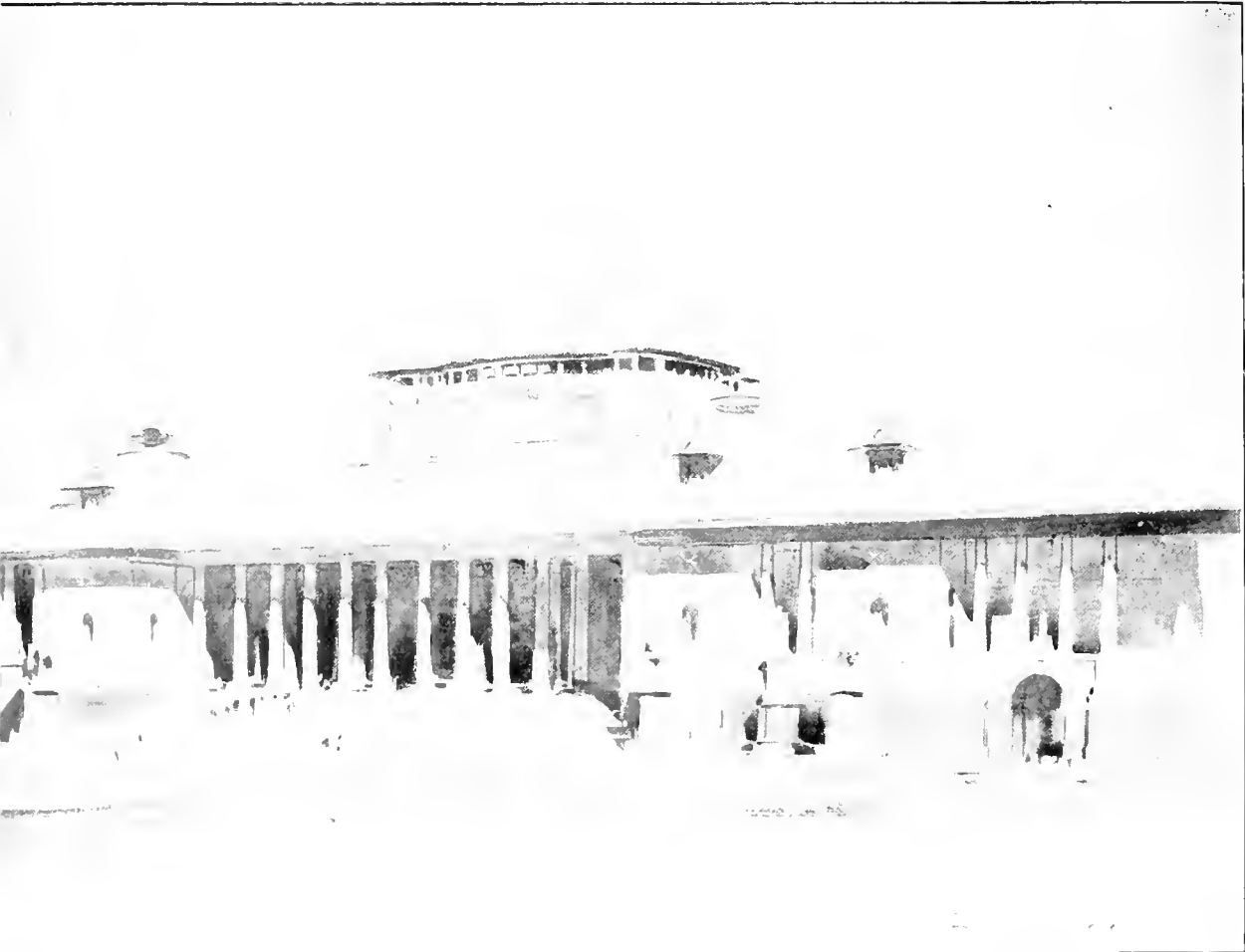
VICEROY'S COURT, WITH GOVERNMENT HOUSE
Sir EDWIN L. LUTY



GOVERNMENT HOUSE, NEW IMP
Sir EDWIN L. LUTY

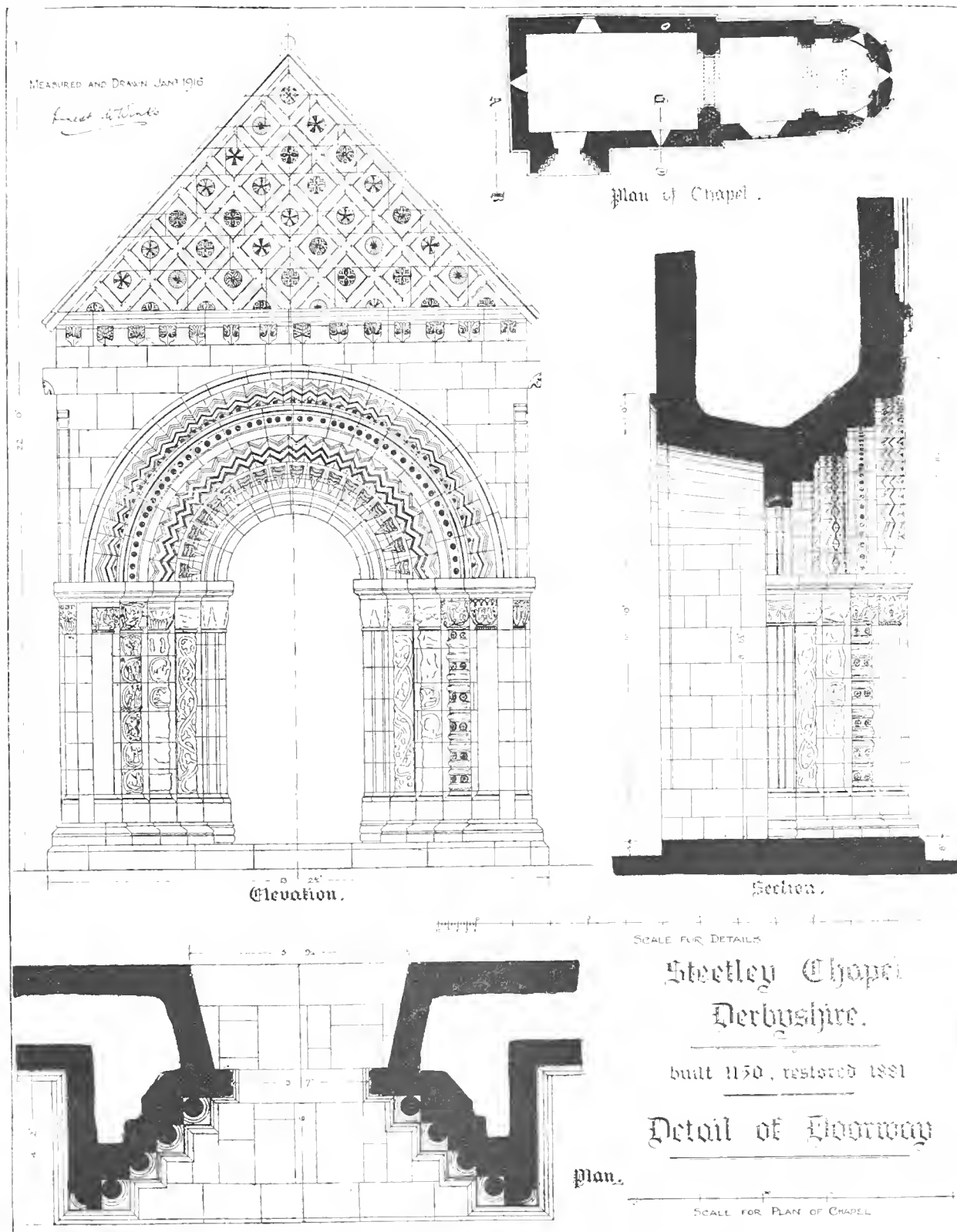


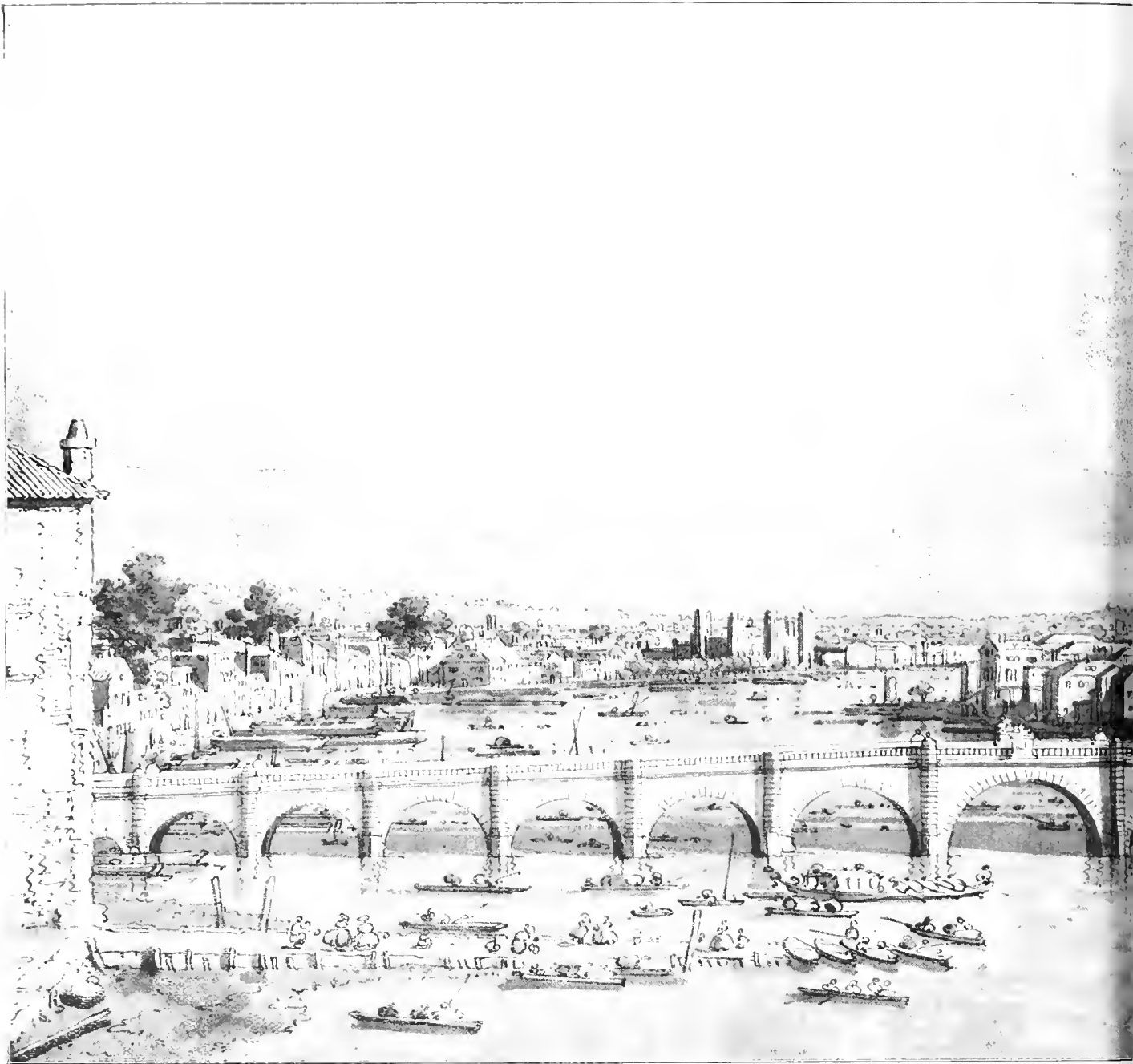
THE BACKGROUND, NEW IMPERIAL DELHI.
A.R.A., Architect.



DELHI : THE EAST FRONT.
A.R.A., Architect.

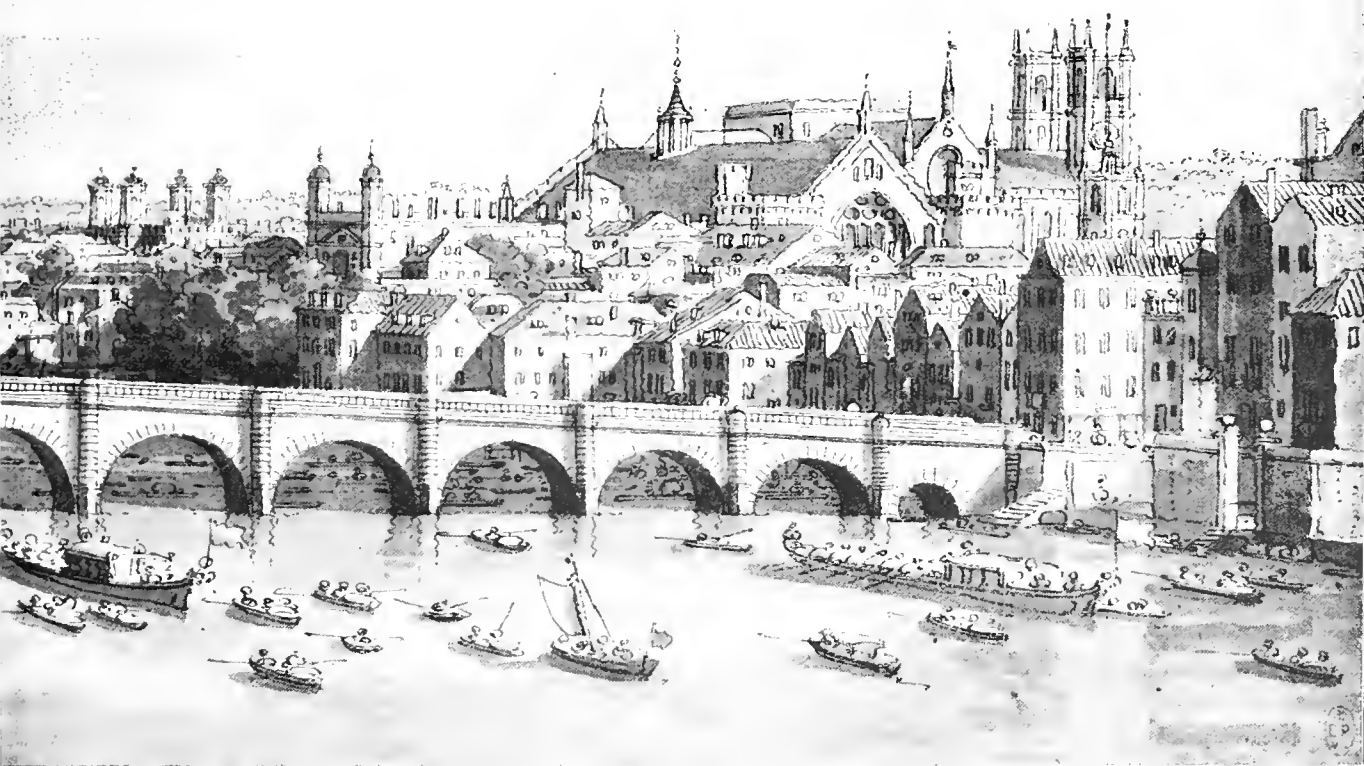






OLD WESTMINSTER BRIDGE, 1746-1748. THE ABBEY, WI
Lent by H.M. The King, from

JULY 16, 1919.



WINDSOR CASTLE, AND LAMBETH PALACE.—By CANALETTO.
Royal Library, Windsor Castle.



THE POSITION OF PUBLIC UTILITY SOCIETIES UNDER THE HOUSING, TOWN PLANNING BILL, 1919.

The following statement has been drawn up at the meeting of the Joint Housing Committee of the Federation of British Industries and the National Alliance of Employers and Employed, held on Friday, July 4, 1919:—

The Committee very much regret that the Housing Bill does not fulfil the promise made by Lord Downham when President of the Local Government Board, that the terms of financial assistance to Public Utility Societies would not be less favourable than those given to Local Authorities.

They are of opinion that the terms offered by the Bill are such as not only to make it impossible for Public Utility Societies to build houses at the present time without suffering a serious loss, but also, having regard to the rents likely to be obtained for the houses when built, will place these societies at a serious disadvantage as compared with local authorities.

The Committee believe that the position was accurately summarised in the speeches delivered by Mr. Aneurin Williams, M.P., and Major Lloyd Greame, M.C., M.P., in the House of Commons on Tuesday, May 27, 1919, in support of an amendment to Clause 19 of the Housing Bill (Report Stage).

Mr. Aneurin Williams stated:—

"If you take the new houses on their own merits and assume a public utility society which has no houses to begin with, it cannot possibly, in the districts with which I am acquainted, put up houses and pay its way. It does not want to make a profit, it does not want to make more than a most moderate interest on the money, the mere wages of capital. In these societies the members of the committees of management usually give their services gratuitously. In spite of all that, it will not be able to pay its way on the terms offered in the Bill. . . . Some people will say that it is a good thing that public utility societies should not be able to pay. They do not want such societies to do anything in this matter. I think that is a great mistake, because the societies go quicker than the local authorities, and they set a standard which educates the public, and when the society has built, the public begin to wake up and to say, 'Why should not this be done on a larger scale?'" (Hansard, Vol. 116, No. 71.)

Major Lloyd Greame said:—"I have made some calculations on the scheme, taking the grant which the right hon. gentleman proposes to give to the public utility societies, which is 30 per cent. of the loan charges, assuming that the whole of the cost is worked out on the loan charge basis. I have taken the cost of the land and the house at £600, which I do not think the right hon. gentleman will regard as excessive. I very much doubt if, in many places, we should be able to do it at that price. I have taken a rent of 10s. It would be interesting to know from the right hon. gentleman whether he thinks that it is too low a rent for a house for the working classes, because one would like to get from the President some indication of what he thinks is a reasonable rent which should be paid by the working classes in this kind of industrial area. Deducting repairs £4 6s. 8d., rates at 12s. in the £ on the rateable value of £15, which is actually the thing in the Birmingham area; water rate £1, management and insurance £1, we get net receipts for that house of £21 5s. 10d. On the amount borrowed from the Government, which would be 75 per cent., or £450, the actual loan charges would be £26 11s. 4d. The result would be that not only would nothing be earned on the ordinary 25 per cent. loan stock, but the society would be £5 5s. 6d. out of pocket on each house, and have to find that amount per house to pay back to the Government in respect to loan charges. Taking the same figures, if you raise the grant to 40 per cent., there would still be a deficit of £1 14s. 7d., and if you put it at 50 per cent., which is the figure I have inserted in a later amendment, instead of 30 per cent., you would then only get on each

house, for the 25 per cent. loan, a surplus over of £1 16s. 3d. £1 16s. 3d. on £150 is nothing like the 3 per cent. which Lord Downham thought would be a reasonable rate for these charges." (Hansard, Vol. 116, No. 71.)

As it cannot be expected that local authorities unaided will succeed in supplying the whole of the working class dwellings needed in the different industrial districts, the committee are of opinion that the policy of the Government in limiting the activities of Public Utility Societies to those cases where employers are prepared to suffer a dead loss will seriously delay the provision of the working class houses which are so urgently needed at the present time.

The committee have already been informed that as a result of the unsatisfactory nature of the Government offer to Public Utility Societies, several important schemes which were drawn up in response to Lord Downham's promise are being abandoned, as although many employers are prepared to lend money to Public Utility Societies without looking for a direct commercial return, they do not feel able to afford the loss involved, not only in locking up without hope of return a large amount of capital, but also in defraying the annual deficit, which will have to be met if building is carried out under the terms of the Bill.

The committee recognise, however, that there may be certain exceptional circumstances where employers may desire, either to provide housing accommodation in connection with their works, or to assist in carrying out small housing schemes in their districts and they therefore again desire to draw attention to the special advantages of the Public Utility Society method of supplying working class housing accommodation, which have been fully explained in their first report.

The following were some of the advantages mentioned in that report:—

(a) It will enable employers to contribute, by means of loan stock, towards the provision of accommodation for their workpeople without involving the disadvantages of the "tied house system" under which employers are housed in houses owned by their employers. The following are some of the practical disadvantages of that system:—

(i.) The employee feels that even outside working hours he is living under his employer's eye, and this is often resented.

(ii.) The employee is apt to regard his house as part of the works, and consequently its upkeep and repair as matters which solely concern his employer.

(iii.) In districts where housing accommodation is scarce, great difficulties may arise in the case of an employee tenant who is dismissed from or leaves his employment. The housing of employees by the Public Utility Societies avoids these difficulties very largely, since the houses do not belong to the employer, but to the society of which the tenants are members. Moreover, it becomes possible to take the control and management of the houses out of the hands of the employer and vest it in a joint committee on which the tenants can be represented, thus relieving the employer of the onus.

(b) It will enable several employers in a district to join together for the above purpose and so take effective action where no single employer, when acting independently, would be in a financial position to do so.

(c) Such a society gives those who have advanced it money a much better security than is possessed by the owner of an ordinary small building estate. The society has a lien on the investments and funds of the members, and this enables arrears of rent and the occurrence of dilapidations to be prevented. Moreover, the tenant is responsible for inside repairs and the amount of these is charged against his repairs fund, so that it is to his advantage to look after the property.

(d) By giving the tenants a share in management and an interest in the

society, many of the difficulties usually attaching to the management of small house properties are avoided, since arrangements can be made for the management to be carried out by a committee, nominated in part, at least, by the tenants themselves. Moreover, the society provides an opportunity for securing real social advantages to the tenants, and forms an admirable medium for establishing better relations between the employer and his workpeople.

(e) The advantages mentioned in paragraph (d) make it possible for the State to contribute substantially towards the assistance of these societies, and thus make operations on a large scale possible without any of the objections which would attach to the State assistance of purely private enterprise.

In conclusion, the Committee desire to state that as they are anxious to assist the formation of Public Utility Societies, they are making arrangements to supply with information or place in touch with expert advice any members either of the F.B.I. or of the National Alliance who may desire to avail themselves of such assistance.

RESOLUTION PASSED BY THE JOINT HOUSING COMMITTEE OF THE FEDERATION OF BRITISH INDUSTRIES AND THE NATIONAL ALLIANCE OF EMPLOYERS AND EMPLOYED AT THE MEETING HELD ON FRIDAY, JULY 4, 1919.

That this Joint Committee of the Federation of British Industries and the National Alliance of Employers and Employed regret that the promise made by Lord Downham when President of the Local Government Board—that the terms of financial assistance to be given to Public Utility Societies in the Housing Bill would not be less favourable than those given to local authorities—has not been fulfilled, and is of opinion that, as a result, the housing of the working classes of the country will be seriously delayed.

COMPETITIONS.

CHESTER-LE-STREET. — The £100 prize offered by the Chester-le-Street Urban District Council for the best block plan for the housing scheme has been awarded. There were nineteen plans submitted and these were reduced to two, and between these there was close competition. The council finally awarded the £100 prize to Mr. Holmes, of North Shields. The second best plan was that of Mr. E. M. Lawson, of Ivanhoe Terrace, Chester-le-Street. The council have invited both gentlemen to meet them at their next meeting with the view of securing their joint services and their housing scheme.

COSFORD RURAL DISTRICT COUNCIL HOUSING COMPETITION.—Members of the Society of Architects are requested not to take any part in the above-named competition without first ascertaining from the society that the conditions have been approved by the council.

LEGAL INTELLIGENCE.

WOLVERHAMPTON BUILDER'S £5,656 CLAIM.—The plaintiffs in this action, which was concluded by Mr. Pollock, High Court Official Referee, on July 7, were Messrs. Wilcock and Co., who carry on business as builders and contractors at Wolverhampton, who claimed £5,656 5s. for work done and materials supplied to the British Potash Co. Ltd. (the defendants), in connection with their factory at Oldbury, Worcester. Mr. H. H. Joy, with Mr. K. L. Pedy, were counsel for the plaintiffs, and Mr. Barrington Ward, with Mr. Du Parc, appeared for the defendants. The Official Referee, after a hearing which occupied several days, held that the £5,500 paid into Court by the defendants was amply sufficient to cover the plaintiffs' claim, including any extra that might be allowed. He therefore gave judgment for the defendants, who, he said, would have to pay the costs up to the time of payment, the subsequent costs being borne by the plaintiffs.

A scheme for the provision of small holdings and farm buildings at a cost of £264,000 has been approved by the East Sussex County Council.

Correspondence.

UNITY OF COMMAND.

To the Editor of THE BUILDING NEWS.

Sir.—The vital importance of this subject induces us to ask for space in your columns to support the articles and letters recently published in connection with it.

At the present time the mind of every man is turned towards peace and reconstruction.

In our profession, more perhaps than in any other, the need of both is great.

We require strong and united leadership in the difficult time ahead.

Instead, we have in London two architectural societies, each trying to lead, but often leading in opposite directions, though each exists presumably to benefit the profession. The resultant inefficiency of effort and waste of money is lamentable enough, but the effect upon the profession and the public is disastrous.

Each has a different policy and a separate set of officials paid and unpaid, with separate offices, staff and official literature to carry their work into effect. There are two sets of examiners and examinations which entitle the successful candidates to append two different initials after their names. Two sets of committees are appointed to deal with the same set of architectural, technical and professional problems, and each issues reports. On occasion we read of two sets of deputations waiting on the same Government official; and two letters to the Press, sometimes agreeing with each other, but more often not.

Can we wonder that the public is bewildered and that architects do not hold the position they should?

Can anything indicate a more pitiable lack of statesmanship than that such a state of affairs should be allowed to continue, especially after the lessons taught by the war?

That such dissension prevailed at the outbreak of war is, we are convinced, one of the reasons why the Government did not entrust any important section of war work to architects, and so we saw many of our distinguished men either unemployed or serving in the ranks when their technical qualifications might have been used with far greater value to the country.

Nothing can be achieved until all these dissensions are swept away and the two societies fused into one.

Then will the profession for the first time for many years be able to present with a united front its policy for future progress.

What particular difficulties stand in the way we can only guess, but they must at all costs be swept aside by persistent effort and when necessary by sacrifice of self-interest comparable to that given by those who in the nation's crisis during the last five years risked, and in many cases gave up, everything for a great ideal. The difficulties may appear great, but the advantages of surmounting them are so much greater that it will be disastrous to the profession if the present miserable state of affairs be allowed to continue without a real practical attempt being made to effect unity.

We appeal to the councils of both bodies to meet and discuss together in a friendly and informal way how this great object can best be attained. Such a discussion may well lead to a settlement on broad lines of that Unity of Command which all thinking men know to be essential in peace as well as war.

H. BAGENAL.
W. DUNN.
BANISTER F. FLETCHER.
H. M. FLETCHER.
THEODORE FYFE.
W. CURTIS GREEN.
H. AUSTEN HALL.
EDWIN LUTYENS.
A. G. R. MACKENZIE.
E. BRANTWOOD MAUFE.
W. G. NEWTON.
G. GILBERT SCOTT.
J. H. WORTHINGTON.
P. S. WORTHINGTON.
H. W. WIGGLESWORTH.

STATUES, MEMORIALS, etc.

KIDDERMINSTER.—The War Memorial Committee has decided on schemes, estimated to cost £40,000. Mr. A. Drury has been engaged to design a public memorial; a children's hospital is to be built and additions made to the existing infirmary; a maternity home will be provided, and premises in Swan Street will be converted into a club for the Comrades of the Great War.

MOLD WAR MEMORIAL.—At a public meeting at Mold, to consider the question of the permanent war memorial for the town, the provision of a recreation ground was chiefly favoured, but public baths, rent-free houses for needy dependents of men who had fought in the war, a commemorative statue, a social club, and other proposals were mentioned. The chairman said the committee would take all these suggestions into consideration, and would submit a scheme to a future meeting.

NEW COLLEGE WAR MEMORIAL.—At a meeting of members of New College, Oxford, held at Lincoln's Inn Hall, last Thursday evening, it was decided to erect a memorial to fallen members of the college. This will take the form of a mural inscription, placed in a prominent position in the chapel or ante-chapel. It was also agreed to devote a sum of £2,500 of the Memorial Fund to the assistance in the college, where necessary, of the sons and relatives of those members who had fallen or been injured or impoverished by their service.

PROPOSED MEMORIAL, RICHMOND.—This memorial, taking the form of a lantern cross, is designed to stand at the end of a narrow passage leading from the main street to the churchyard of the old Parish Church. It is proposed to put figures of SS. George, Andrew, Patrick, and David on the alternate faces of the octagon shaft. There being about 800 names to be recorded, it would be impracticable to inscribe them legibly and at a reasonable distance from the eye on an outdoor monument of the size that is possible here; so the record of names will be inside the church and there is to be merely a general inscription upon the monument itself. The upper stage of the cross is to contain a memorial light worked by a pulley and chain inside the shaft. The material is to be Clipsham or Portland stone. The architect is Sir Charles A. Nicholson, of 2, New Square, Lincoln's Inn.

STAMFORD.—The dedication of St. John's War Memorial took place on Peace Sunday. The memorial is a screen, which has been designed to fit the inner face of the west doorway of the nave. The general idea is based upon the ancient 15th century screens now existing in the church. A bold moulded four-centred arch, having carved crockets and a carved finial, crowns the memorial with a delicately-traceried curtain depending therefrom on the wall face, and supported by trefoil jambs with moulded capitals and bases. Behind this and on the splayed jambs is paneling, the former with traceried heads. Three panels are occupied with the names of the parishioners who have served in the war, the names of the men who gave their lives being cut into the oak and gilded, the names of those who served being painted in plain black lettering. The lower portion of the memorial has elaborately-traceried panelling, with carved spandrels, this panelling being also extended on each side as far as the nave arcades. The whole has been executed in oak by Messrs. Bowman and Sons, of Stamford. The architects are Messrs. Traylen and Son, A.A.R.I.B.A., of Stamford.

INTERCOMMUNICATION.

QUERIES.

Hard Walls.—With a good mortar mixture, 2 sand and 1 lime, what quantity of Portland cement is required to make it too hard to drive nails in?

W. GRIFFITHS.

9 and 10, Jennens Row, Birmingham.

The directors of the Great Eastern Railway Company propose to erect a memorial of the late Captain Fryatt. A general memorial of the fallen among the men in the company's service is to take the form of an architectural addition to Liverpool Street Station.

Our Office Table.

A singular position has arisen in police circles in Worcestershire as a result of a large number of changes which are being effected. Many police officers have retired on pensions, but owing to the lack of houses these officers are placed in an awkward dilemma. They live in county properties, and now that they have retired from the force the houses are required for their successors. Houses are difficult to obtain, and a number of the men have been unable to secure premises. The county authorities have decided to allow the ex-officers to remain in possession of the houses till the end of the month, but this has created a singular position as the officers who succeed them have either to lodge in the division to which they have been transferred or are compelled to travel backwards and forwards daily.

On Wednesday last the tenders of the first instalment of Birkenhead's housing scheme were accepted by the town council. They comprised 52 houses at the south end, on the Rock Ferry site, and 92 on the north end site, the Gilbrook estate, and the total amount was £125,000. There was considerable discussion, but it was mostly upon the main scheme for 1,000 houses and the enormous expense entailed. Eighteen tenders in all had been sent in from various parts of the country—four of them too late. The cost of the houses will range from £756 for type A, which contain three bedrooms, a bathroom, scullery, and kitchen, to £963 for type B, which contains, in addition, a parlour. Then there is the cost of land, the exact amount of which no one knows, as it has been in the possession of the corporation for a number of years, but it has been met out of the sinking fund. Also there is the road-making and flagging, which work out at £82 a house on the Rock Ferry scheme and £103 at Gilbrook. Per cubic foot, the cost works out:—At Gilbrook, A houses 16.2d., B houses 17.65d.; Rock Ferry, B1 houses 18.6d., B2 houses 16.5d. The Local Government Board have notified that they did not intend any local authority should be involved in anything beyond a penny rate. If the 1,000 houses it has agreed to build cost £1,000 each, the town will have to find a round million.

An interesting old manuscript has been found among the municipal archives of Warwick. In going through the ancient documents, Mr. Thomas Kemp, the local historian, found MS. consisting of 202 folios, in regard to which the Rev. Harvey Bloom reports that it contains the accounts of the steward of Richard Beauchamp Earl of Warwick (whose tomb is in the Beauchamp Chapel at Warwick), while on a tour in France to attend the coronation of King Henry VI. in Paris, in the year 1431. Mr. Bloom refers to the MS. as "a priceless treasure," throwing as it does valuable light on the history of the time, the domestic life, the form of entertainment and so forth of the great Earl. Mr. Bloom is engaged on deciphering and translating the document, which will be published ultimately in book form by the Corporation.

A Housing Exhibition was opened at Birmingham last Wednesday in the Town Hall. In the gallery on the left are models of houses made to plans prepared by the Housing and Town-planning Department for general adoption throughout the housing schemes of the Corporation. On the walls behind the models are numerous plans, conspicuous amongst them being a large one giving an elevational view of the proposed Batchelor's Farm Model Village, Bordesley Green. Some of the plans are the work of Mr. Henry Farmer, the Birmingham Housing Commissioner, and include the plans for the National Shipyard Cottages at Chepstow. The gallery on the right is devoted to a display of house-fittings, approved by the Ministry of Health, and supplied for Government housing schemes. Backing them is another collection of plans. The basement is reserved for furniture exhibits, etc.

New housing schemes submitted to the Ministry of Health by local authorities and public utility societies during the week ending

(Continued on page VIII.)

HOUSING & RECONSTRUCTION

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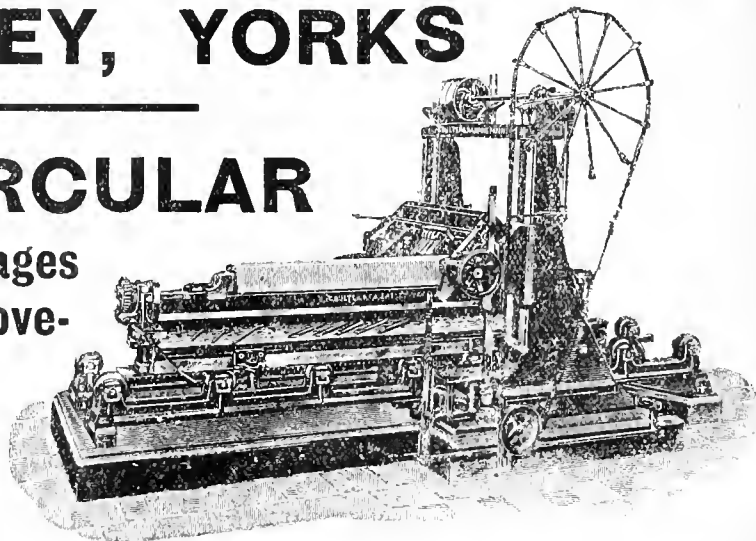
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(Continued from page 62.)

July 5 numbered 227, a number of which is again well above the average of preceding weeks. They bring the total number of housing schemes to 2,964, comprising nearly 35,000 acres of land. Of these 2,954 schemes 48 are promoted by public utility societies, the majority of which have been formed specially for the purpose of taking advantage of the Government's offer of money help for housing enterprise on co-operative lines. The promotion of further societies is indicated by inquiries received by the Ministry (numbering 355) from industrial firms, private individuals, trade unions, allotment societies, etc. Reports from the Housing Commissioners and from local authorities, though far from complete as yet, show a considerable increase in actual building operations in progress. Among local authorities' schemes, work is known to have been begun in the case of more than 3,000 houses, and in public utility society schemes, in the case of more than 600 houses. These figures are increasing from day to day. Tenders for 1,200 houses in 28 different localities give an average cost per house of about £630, or about 1s. 1d. per cubic foot. The maximum and minimum prices, respectively, were £765, or 1s. 2d. per cubic foot, and £421, or 9d. per cubic foot. The proportional cost of land per house varies considerably, of course, according to the district. The average cost taken over 25 schemes in different parts of the country was about £18 per house.

A simple device for improving the shearing strength of bolted joints in wooden structures has been brought out by Professor C. Forsell, of Stockholm. It takes the form of a corrugated washer, which is threaded on the bolt between the two pieces to be joined. The bolt is tightened against a pair of plain washers on the outside with sufficient pressure to force the corrugations into the wood. The strength of the joint is thus unaffected by the bolt hole, and depends on the friction between the two surfaces which are proportionate to the size of the washer and the depth of the corrugations. The strength of the joint is increased, says *The Engineer*, according to *Ingénieur*, about twofold. The washers are known as "Bufo" washers, and made in various sizes, but all 1.16-in. thick, with corrugations about 9.32-in. high. In order to permit sinking into the wood, it is necessary to remove all knots at the joints to a depth of 3.16-in. to 3-in. The bolt is screwed up with spanners not less than 2 ft. to 2½ ft. long, and it is necessary to repeat the process after the first forty-eight hours and a further seventy-two hours.

One solution of the housing problem has been furnished by Mr. John R. Grant at Froggatt, in Derbyshire. He has built a house from beginning to end with his own hands. He is still busy putting the final touches thereto. First he quarried and dressed the stone and drew up plans. Facing stone he bought from another quarry, but dressed it himself. Of finished articles he bought six doors. In turn he was a plasterer, joiner, glazier, slate-layer, tile-setter, and painter. The result is a home which he has called "Woodlands View." There is nothing jerry-built about it. Mr. Grant had received no training as a builder. He has, however, associated with stone workers for many years.

Dr. Addison, the Minister of Health, has appointed a committee to advise the Department as to the best measures for disseminating information with regard to housing. The committee consists of the following members: Sir Herbert Morgan, K.B.E. (chairman); Mr. H. B. Aldridge, secretary of the National Housing and Town Planning Council; Mr. H. Holford Bottonley, C.B.E.; Miss Churton, secretary of the Rural Housing and Sanitation Association; Captain R. L. Reiss, chairman of the Executive Committee of the Garden Cities and Town Planning Association; Mr. Llewellyn Thomas, chairman of the Welsh Housing and Town Planning Association; and Mr. J. Silas Whybrew, secretary of the Labour Housing Association.

The tawdry character of many of the "peace decorations," even in some of the leading thoroughfares, is discreditable to all

responsible. It is not too late for some to send to Messrs. Lawis Berger and Sons, Ltd., Hemerton, E.9, for a copy of the suggestive booklet they have issued, in which a variety of sketches from the simplest design to the most complete are supplemented by useful hints as regards their application to buildings of different classes. In the case of public buildings it is certainly far better not to decorate at all than to decorate badly, and, as is well emphasised, the first thing to take note of is proportion, the second is placing, and the third is design. The appalling lack of the last mentioned essential is painfully obvious in the majority of the buildings already decorated.

Senator Lodge, of Massachusetts, has introduced a joint resolution authorising a joint committee on the library to select an appropriate design for the completion of the frieze in the rotunda of the United States Capitol. An appropriation of \$20,000 is asked to complete the unfinished work of two noted Italian artists, Constantino Brumidi and Filippo Costaglini. Costaglini will be remembered by the older generation of architects and artists for his work in the large cathedrals of America. He died before the frieze could be completed. Brumidi painted the scenes on the walls of the President's private room at the Capitol, the canopy of the dome, the picture of Cornwallis suing for cessation of war in the House side, and other noted paintings in the legislative building. Pope Pious IX. commissioned him to restore the Loggia of Raphael in the Vatican before the artists came to America. While working on the frieze in the early '60's, Brumidi fell from the scaffold and died from his injuries.

LIST OF TENDERS OPEN.

BUILDINGS.

July 18-25.—Erection of 32 cottages at Walton.—For the Peterborough Rural District Council.—Tenders to be sent to the Clerk's Office, 49, Priestgate, Peterborough. G. A. Penwell, surveyor to the council, Queen Street, Peterborough.

July 21.—Tenders are invited for the erection of 12 workmen's dwellings at Fakenham, Norfolk.—For the Walsingham Rural District Council.—R. S. Butcher, clerk to the Walsingham Rural District Council. Drawings may be inspected at the surveyor's office, Fakenham, by appointment with J. Page, B.A., A.R.I.B.A., architect, or W. O. Humphrey, M.I.M.E., surveyor, at that office.

July 22.—The committee of the Rubery Social Club invite tenders for the erection of a social club. R. Thompson, M.I.A., Catshill, Bromsgrove, architect. Tenders to J. Baker, Yew Tree Cottage, Callow Brook Lane, Rubery, near Birmingham, secretary.

July 22.—For all trades (collectively or separately) in the building, including road making and sewerage, of 62 houses on three sites at Halifax, under the Government scheme.—For the Housing Committee of the Halifax Corporation.—J. Lord, M.I.C.E., borough engineer, Crossley Street. Tenders to P. Saunders, town clerk, Town Hall, Halifax.

July 23.—Carrying out alterations and additions to Hendresievan Farm House, near Machynlleth.—For Lord Herbert Vane-Tempest.—Architects, Messrs. Deakin and Howard Jones, M.S.A., Plas Ynys, Borth S.O., Cardiganshire. Tenders to be sent to R. Gillart, Estate Office, Plas, Machynlleth.

July 28.—Building and painting at Albany House, Old Windsor.—For the guardians of the Windsor Union.—Edginton and Spink, 52, High Street, Windsor, architects. Tenders to J. E. Gale, clerk to the guardians, 3, Sheet Street, Windsor.

The Diss U.D.C. proposes to build sixty houses in Sunnyside and Frenze Roads. Mr. Dunham, of Norwich, is the architect.

The St. Dogmells (Pembrokeshire) Rural District Council has instructed Major T. J. Moss Flower, C.E., of Westminster and Bristol, to prepare and submit schemes for the provision of water supply in their larger areas including Newport and St. Dogmells.

The urban district council of Fleet (Hants) is approaching the Ministry of Health in regard to the sewerage and sewage-disposal scheme which was closed down on the instructions of the latter body to release men, material, and money for war purposes. The council has instructed its engineer, Major T. J. Moss Flower (of Westminster and Bristol) to report on the present condition of the works and prepare estimates of the probable cost of completing them.

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TENDERS.

BARGOED.—For alterations and additions at the sexton's house, Gwaelydhrithir Cemetery, Bargoed, for the Gellygaer Urban District Council. F. Read, A.M.I.C.E., engineer and surveyor to the council.—

Lewis, F. and A., Gilfach, Bargoed .. £450 3 3

Williams, D., 109, Gilfach Street, Bargoed .. 19 1 0

* Accepted.

BRIDLINGTON.—For bathroom, with provision of bath, boiler, etc., in the Poor Law Institution, Marton Road, for the guardians. S. Dyer, architect, Bridlington.—

Jarvis, G. H., 194, Quay Road, Bridlington .. £59 6 6

* Accepted.

BROMSGROVE.—For erection of 36 houses at Catshill and Rubery, for the North Bromsgrove Urban District Council.—

Brazier, J. and A. .. £30,593 0 0

* Accepted.

CROYDON.—For repairs to school buildings, for the corporation. Accepted tenders.—

Davidson Road School, Lewin, G., Sydenham Road North, £50 19s.; Borough School for Girls, Exvitt, G. E., and Sons, Ltd., Windmill Road, £946; and Borough School for Boys, Mansell, R., Grant Road, £50.

HAINESMITH.—For the development of the Old Oak Estate (Eastern Section). For the London County Council.—

Monk, A., Hertford Road, Ed-

monton .. £95,745 6 0

Thorne, F. and T., Isle of

Dogs .. 92,294 0 0

Allen and Norris, 190, Fulham

Palace Road .. 90,980 0 0

Fairhead, A., and Son, En-

field .. 89,998 0 0

* Recommended for acceptance.

HERTFORD.—For structural alterations and improvements at the Hertford Residential School for Mentally Defective Children, and for repairs and decorative work, for the Hertford Education Committee.—

Norris and Son, £1,007 and £459 respectively.

MIDDLESBOROUGH.—For the erection of 100 houses, for the corporation.—

Parkinson, J., and Sons, Black-

pool .. £85,000 0 0

* Accepted.

MORLEY.—For erection of engine house and engine bed at Brunswick Mills, for Messrs. Wilson and Swallow. T. A. Buttery, L.R.I.B.A., Queen Street, Morley.—

Newton, L., Brunswick Works,

Ackroyd Street, Morley .. £2,050 0 0

* Accepted.

MORLEY.—For erection of motor repair works in Wide Lane, Morley, for the B.D.C., Ltd. T. A. Buttery, L.R.I.B.A., Queen Street, Morley, architect and surveyor.—

Hurst, H., Kirkgate Terrace,

Birkenhead, Bradford .. £680 0 0

ROTHBURN.—For foundations for warehouse at Rothburn, for the National Wharves and Warehousing Co., Ltd. A. E. Bullock and Jeeves, 141, New Bond Street, W.1, architects and surveyors.—

Smith, J., and Sons, Ltd., 106,

New Bond Street, W. .. £12,223 0 0

Dove Bros., Ltd., Cloudsley

Place, Islington, N. .. 11,995 0 0

Richards, W., Alban, 19, St.

James' Street, S.W. .. 10,662 19 8

Flinn, H. A., 70, Finchbury Pav-

ment, E.C. .. 9,955 16 3

Holst, K., and Co., 1, Victoria

Street, S.W. .. 9,845 16 3

Somerville, D. G., and Co., Ltd.,

129, Victoria Street, S.W. .. 9,031 16 0

SUTTON ST. JAMES.—For the erection of houses at Sutton St. James, for the East Elloe Rural District Council.—

Baker, J. B., Moulton Chapel, £975 per pair

(accepted).

WEST THURLOCK.—For 14 cottages for the Orsett Rural District Council. F. J. Winter, M.S.A., architect, Southend-on-Sea. Quantities by Sydney C. Gordon, Finchbury House, Blomfield Street, E.C.2.—

Pavitt Bros., Aveley .. £14,035 0 0

Calvert and McBride, Waltham-

stow .. 13,510 0 0

Arnold, A. J., Leigh-on-Sea .. 13,115 0 0

Trudgett, J. W., Colchester .. 11,800 0 0

Brown Bros., Ltd., Grays .. 10,250 0 0

Stark, F. C., Manor Park .. 8,940 0 0

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

The Great Hall of the Secretariat, Imperial Delhi, and ground plan of the buildings. Mr. Herbert Baker, F.R.I.B.A., Architect.
The Zeebrugge Tablet War Memorial, St. George the Martyr Church, Canterbury, by Mr. Omar Ramsden.
King Street Gatehouse, Westminster, 1723. Water-colour drawing by George Vertue, graciously lent by H.M. the King, from Windsor Castle Library.

Currente Calamo.

The Chancellor of the Exchequer considers the result of the issue of the new Loan very satisfactory in view of all the circumstances, and doubtless it is, but it has by no means solved our financial problems. The floating debt alone, as is now generally known, stands at about £1,500 millions, to say nothing of the Budget deficit, estimated at some £250 millions for the current year, the latter alone requiring more than half the £450 millions of cash received. We do not know "all the circumstances" Mr. Chamberlain had in his purview, but we fancy no financier worth the name would have chosen the last days of his invitations to capitalists in which to discourage applicants by such dampers as Mr. Bonar Law's announcement of the 6s. rise in coal which was to take effect three days after the closure. We know that it irritated more than one humble capitalist into abstinence from otherwise intended participation in the more popular of the two sections of investors, and doubt whether Mr. Chamberlain is not wondering why Mr. Bonar Law could not have waited another week.

The costs chargeable on taking up a lease is a point of much practical interest to builders and all concerned with house property. In what we are now coming to, in "the old days"—meaning those before the war—it was usual for the freeholders' lawyers to agree with the builder the costs he should pay upon being granted leases of the houses as they were completed. Perhaps in time we shall get back to that state of things wherein private and personal enterprise provided dwellings for our growing population. These builders, whether we call them speculative or jerry, did, at all events, take their risks: build the houses that were wanted, and which were rapidly sold, let, and occupied. In the meantime, the question as to what costs can be claimed from a lessee on his taking up an ordinary lease seems rather confused. The recent case of "*In re C. R. Sawyer v. Withall*" turned upon the point as to which of the two official scales of costs should apply. The lease was for 61½ years, at a rent of £525. If the rent reserved could be taken as a "rack rent," then the fee would be £17 10s.; if it were

held to be a long lease, not at a rack rent, this rose to £42 15s.—some difference! After legal and technical argument Mr. Justice Sargant held that a rack rent merely meant the full annual value of the premises, however calculated. This was the case of a long lease at a rack rent, and so the lower scale of costs applied. Thus the old term, "rack rent," has now received a common-sense definition.

We are glad to learn from the *Liverpool Daily Post* that there is to be a boom in the erection of great buildings in Liverpool. The fact is creditable to the city, and indicates a confidence in the future of Liverpool which we must all hope will be justified. Though the projected enterprises are essentially private affairs, yet in certain aspects they concern the public in a way that must not be ignored. For instance, as our contemporary insists, it is of very serious importance to the public that the architecture of the future buildings should conform to the highest modern standard of beauty in such work. Perhaps they will, but it requires to be increasingly emphasised that a city should have a vital say in town planning when any large schemes of building are involved. This is particularly necessary when the vital question of a city's communications are concerned, and they are in this case. To take Church Street, there the traffic congestion is already great. The new buildings that are projected will further increase the traffic. How is this increase to be coped with unless the thoroughfare is widened? Then there is the case of School Lane, which ought to be opened up. St. John's Lane is another thoroughfare that needs attention from the point of view of facilitating movement in the city. And now is the time for the municipality to take action if good results are to be obtained. The whole problem of transport is at present under the consideration of a committee of the Council. As yet this body has not, we understand, reached any definite conclusion. Probably it has not considered the problem in relation to the great buildings which are being proposed. But it ought to do so without delay, for it would be quite unfair to the promoters of these undertakings if they were in any way hindered by the belated interference of the municipality.

The alteration in the date of Peace Day upset many things, among them the

arrangements for the Mercantile Marine Pageant, which is now fixed for the 4th of August. In preparation a little time will be gained, so the illustrated Guide issued by the British Institute of Industrial Art, which is the fruit of the co-operation of the League of Arts for National and Civil Ceremony, will be of use, after all. It contains some very practical contributions on street decoration, pageantry, costume, heraldry, with illustrations by R. Anning Bell, George Kruger Gray, Stephen Reid, Norman MacDermott, and Henry Wilson. We hope it may happen that the suggestive scheme in the frontispiece by Mr. Henry Wilson may be adopted. It is an inexpensive but effective one for the decoration of the barges and choir stands on the river, with coloured sails and camouflage. The words and music of three national songs are included in the Guide, which as a whole is a very creditable first fruit of the labours of the League of Arts, which is willing to advise on matters connected with public celebrations if communicated with at 35, Cornhill, E.C.3.

We have received from the President of the Associated General Contractors of America, 111, West Washington Street, Chicago, a "Special Bulletin," outlining a "Plan of Action" outlined for contractors by a recent ruling of the U.S.A. Treasury, in respect of the "cost plus" contract used by the Construction Division of the War Department, which makes it pretty evident that it is intended to make contractors pay the premiums on the bonds, with sureties which they are compelled to furnish previous to commencing work. Very properly, the Association means war to the knife against the ruling, and it outlines the plan of action it intends to adopt, which seems to us a practical one. Nearly all the contractors interested are members of the Association, and we heartily wish them success. We advise the careful consideration of the "Special Bulletin" by all representative bodies this side, where the authorities—having got all the help they invited during the war—are manifesting the autocratic instincts characteristic of officialism all the world over when settling-up time comes. Our copy of the "Bulletin" is at the service of the executive of any representative organisation already "agin the Government"

about kindred matters who will send us a threehalfpenny-stamped addressed envelope and undertake to return it when read, so that other similar bodies may have the chance of perusal. It is well worth study.

The multiplication of "Memorials" is not always a guarantee of remembrance; Alain Rene Le Sage, the immortal author of "Gil Blas," died in 1747, in his 80th year, at Boulogne, at the home of his son, a Canon of the Cathedral. Last week, says the *Morning Post*, an Englishman went with his wife to see the house, which still exists, in the Rue du Château, and had some difficulty in deciphering the faded gold lettering on the little memorial tablet which is let into the wall. As they stood reading the inscription a woman who now lives in the house came to the door and seemed to wonder what was interesting them. The Englishman remarked that it was a pity the tablet had become so dilapidated, at which the good lady remarked: "Dear me, I never noticed it before!" The lesson is obvious. A memorial should always be worthy of the commemorated. To remain such it must be a worthy work of art in itself, and of a material that shall not become dilapidated in less than a couple of centuries.

A happy thought has inspired Sir Isaac Pitman and Sons to issue a "Shorthand Writers' Phrase Book and Guide for Builders and Contractors" (1, Amen Corner, E.C.4, 2s.). It will prove most useful to architects, builders, contractors, and their clerks and assistants, and all preparing to become such. The specimens of forms included are, of course, not exhaustive, and some of them are not actually in use in builders' offices, but they frequently pass through the clerks' and assistants' hands, and they are included so that the clerks may understand them. A brief description of the duties of shorthand clerks in the building trade is given. But the most useful and very valuable feature of the book is the copious list of abbreviations, about 1,500 phrases used in the trade being given, with their shorthand equivalents. The ingenuity displayed in the compilation of this list is really remarkable, and prompts the conviction that there is some special adaptiveness in phonography to the needs of the builder, whose various trades probably include more distinctive names and phrases than any other. That this makes wonderfully for speed will be acknowledged by all who learn the shorthand equivalents. The exercises are good, and the shorthand clerk who masters them will find his time economised most satisfactorily to himself and his employer, and his value increased correspondingly.

We have read with pleasure, and we trust profit, a capital ten shillings' worth entitled "Training for Young England," by Mr. Fredk. G. Cooke, an architect, whose previous books, "Observation in War" and "Scouting by Night," all

three published by Gale and Polden, Ltd., 2 Amen Corner, E.C.4, many readers have probably enjoyed. In these days of Controls, Leagues, Federations, and all the rest of the get somebody else to knock sense, reason and honesty into you somehow, it is refreshing to find someone who, at the hands of a wise father, early found the value of trained observation, the real root of all knowledge worth acquiring, and of which the present rising generation seems almost entirely ignorant. We have lately had a new Education Act passed which is to mend matters. We hope it may; for up to now, Mr. Cooke says, in our elementary schools education has been stale, flat, and unprofitable, and training practically non-existent. In his first chapter he sermonises sensibly on Ruskin's text, "Things must be sought ere they are seen, and loved before they are understood." If they are not, then assuredly real observation with knowledge, eyes, and brain is impossible. In the succeeding chapters we are given hints on training in geology, forestry, and timber, the knowledge of wild flowers and plants, wild and tame animals, colour and camouflage, water, hygiene and sanitation—including some very necessary warnings in these days of public baths and other conveniences—useful handicrafts, physical exercises, night craft, first aid, etc. Every boy and girl should be given a copy of the book next birthday, and the parent, teacher, or other donor should read it through himself or herself first.

A man, his wife, and ten children, ejected from their cottage, and unable to find another home, were several weeks ago admitted to Billericay workhouse. Having failed in their endeavour to find a house in the district for this large family, the Guardians have decided to store the man's furniture and offer him work until housing accommodation can be found for the unfortunate family. The precedent is a generous, but somewhat doubtful one. If it is admitted, the homeless thousands among us had better follow suit. We may as well come on the rates as the taxes, and leave fortunate profiteers and placemongers to find the big deficit on the housing scheme!

The Tiverton Rural District Council have appointed Captain Nixon as architect. It is proposed to erect 202 houses.

A private company has been formed, with a capital of £25,000, for the erection of a cinema, shops, etc., in Church Street, St. Helens, Lancs. The registered office of the new company is 34, Wellington Street, Leeds.

The service of Mr. Arthur Ventrise, A.M.I.C.E., assistant city engineer of Westminster, has been extended until the end of the present year, when his superannuation, on completion of thirty-nine years' service, will take effect.

The Ministry of Health has approved of the Ashton-in-Makerfield Cansfield Grove site, and the Housing Committee have instructed their architects, Messrs. Adheads and Topham, etc., of Manchester, to get out designs, plans, and specifications.

The resumption of the work of building the Liverpool Cathedral was referred to at a meeting of the Diocesan Committee last week. The financial statement showed that, in view of the great increase in the cost of labour and materials, the sum of £150,000 would be required to complete the main part of the edifice, which it is hoped will be consecrated and opened within three years. Towards the amount required about £75,000 is in hand.

"UNITY"—HOW SHALL WE GET IT?

The letter we published on page 62 of our last issue has doubtless been considered by most readers with the sympathy it deserves, and we should imagine, with the hearty approbation of the sentiments contained in the first nine paragraphs. It is only when we come to the four concluding paragraphs that opinion may differ as to the present possibilities of securing unity; or as to the likelihood, should the course suggested result in the absorption by the Royal Institute of British Architects of the Society of Architects that then the profession will be able to present with a united front its policy for future progress. Has the recent history of the R.I.B.A. justified that hope? Is it not more likely that within its own ranks it will, as soon as it resumes its normal activities, be rent again by dissensions which will paralyse all effort? Did it take at the opening of the war any such firm stand against the Government to secure justice for the members of a profession which has responded to the call of the country in greater proportionate numbers than any other, and have made sacrifices which no other calling has equalled?

Do not the influential and justly esteemed gentlemen who signed the letter know that if they can only "guess" the "particular difficulties" which stand in the way, they must either be singularly charitable, or have failed to familiarise themselves with our recent history? The failure of the last attempt to amalgamate the two societies was engineered by the obscurantists and the malcontents of the R.I.B.A., who rejected the recommendation of their own Council arrived at after just such meetings and discussions of the Councils and officers of the two bodies as the letter suggests should once again be arranged. We, indeed, said then, "The resources of civilisation are not exhausted," (see p. 57 of our issue of Jan. 12, 1912), and that we believed it was "not going to be said of British architects that when an opportunity arose of ending a cleavage in their ranks of twenty-five years' duration, and of uniting the whole profession in a resistless crusade on behalf of the due recognition of its fit members, and the attainment of their just rights, it was lost by treacherous desertion and vulgar cantankerousness." We try to think so now, but we are persuaded that only a frank recognition that many things have changed since 1912 can precede any fresh attempt in the direction of Unity.

The initiative then came from the Society, and the preliminary conferences between it and the R.I.B.A. resulted, as far as the Society was concerned, in concessions which were not very consonant with the feelings of its own Members, but were acquiesced in by the whole body with a genuine desire for the success of the scheme. But to-day in response to the friendly intermediation of peacemakers the Society of Architects' Council may not unnaturally say, "Let us have specifically the proposals of the R.I.B.A. first, and we will give them the best consideration, but this time fusion must be a reality and on equal terms, and there must be no doubt about its acceptance by your members."

For, since 1912, the Society, even under the adverse circumstances of the war has quite outstripped the R.I.B.A. in progress, favoured by the good management of its officers and by the recognition of the profession that the main plank of its platform—Registration—was the only real means of securing public knowledge

of the fitness of its members, and their right to the protection from the unfit and the charlatan. It has, like the other great Professional Societies, favoured the legitimate publicity which fosters public interest, but which of late years has been freakishly limited by the R.I.B.A., apparently because it was deemed the monopoly of its own publications which none but its own members saw. The result is a prestige and position which fully justify the considerable and growing applications for the Society's membership fostered by the conviction that its position as the leading representative of the profession is a fact of the near future, and one likely to be emphasised before very long in gratifyingly convincing fashion.

That, rightly considered by the R.I.B.A., should help union. It has been said, "England does not love coalitions," and perhaps the present political position is one not unlikely to precipitate another proof of the truth of the saying before very long. For real union, while exacting no surrender of honest opinion, does demand something like equal strength of the coalescing parties and equal loyalty in the pursuance of the objects aimed at. That at least in equal strength the Society can reinforce the R.I.B.A. by in a greater degree than in 1912 is certain; and loyalty is guaranteed by the total absence of cleavage among or the disturbing discontent of its members during its whole existence.

A final friendly word. The heading of the letter we printed last was "Unity of Command." We had rather it had read "Unity of Comradeship." There is too little of the latter in the world to-day. But the most glorious proof of the invincibility of men permeated thereby has been given during the past five years by the men of the Army and Navy who have saved the Empire, and whose heroism and endurance have been so largely manifested and shared by those of our own ranks, who will hardly fail to respond if it is made clear that true comradeship is the best guarantee of loyalty to command.

A daughter was born on Tuesday week to Mr. Rainald Vansittart Bowater (eldest son of Alderman Sir Vansittart Bowater, Bt.) and Mrs. Bowater.

To prevent small contractors losing their workmen the North Herts Building Trades Association urge that twelve Government cottages be allotted to each tender.

The Rochester Town Council has decided to acquire the Steel Street site, and plans for the houses will be forwarded to the Ministry of Health. Mr. C. W. W. Thompson, of Bank Chambers, has been appointed as architect in conjunction with the Rochester city surveyor.

Speaking last Wednesday at Kentish Town, Mr. J. W. Lorden, M.P., member of the Housing Committee, and himself a builder, declared that if the new houses had the desired cupboards, these would only be kept free from rubbish if they had glass doors, so that visitors could see into them.

At a special meeting of the Public Works Committee of the Birmingham Corporation last Thursday afternoon it was decided to recommend that Mr. H. H. Humphries, the present deputy city surveyor, be appointed to succeed Mr. H. E. Stilgoe as city engineer and surveyor as from August 1 next at a salary of £1,500. This recommendation will be laid before the Salaries, Wages, and Labour Committee, and, subject to their concurrence, will be brought before the city council on July 29.

The West Bromwich Education Committee last Wednesday decided to proceed with the completion of the Cronehills Schools at an estimated cost of £27,000, subject to the Government sanctioning the borrowing of the money. The schools were commenced shortly before the war, the original estimate of the cost being £14,918. When the work was stopped by order of the Government the amount done represented £3,793, leaving a balance of £11,125 uncompleted. This portion has now grown to £27,000.

Our Illustrations.

THE GREAT HALL OF THE SECRETARIAT, IMPERIAL DELHI.

A perspective of the interior of the Great Hall at Delhi, on view at the Royal Academy this summer, by the architect, Mr. Herbert Baker, F.R.I.B.A., who has lent us the plan of the Secretariat Buildings, is reproduced herewith to-day. Other illustrations have appeared in our issues of May 7 and 21, June 4 and 25, and July 16, showing the joint work now being carried out for the Government of India by Sir Edwin L. Lutyens, A.R.A., and Mr. Herbert Baker, the joint architects. We have two other pictures, also drawn by Mr. W. Walcott, to publish shortly.

THE ZEEBRUGGE TABLET WAR MEMORIAL, CANTERBURY.

The photograph reproduced to-day is shown at the Royal Academy War Memorials Exhibition, now open in the Victoria and Albert Museum, South Kensington. Mr. Omar Ramsden designed, modelled, and chiselled the tablet. It is of bronze, mounted on a shaped oak surround. The memorial was recently unveiled in the parish church of St. George the Martyr, at Canterbury, in memory of the officers and men who perished in the naval action at Zeebrugge, St. George's Day, 1918. The cost of its erection was undertaken by their admiral and comrades, as well as by the Kent Branch of the Royal Society of St. George.

KING STREET GATEHOUSE, WESTMINSTER.

This drawing in water-colour, from the Royal Library at Windsor, has been lent us by the King. The picture belonged to Princess Charlotte of Wales, as inscribed on the back of the frame. It was drawn by George Vertue in 1723, just before the Gatehouse was demolished, "to improve the approaches to Westminster." It stood some little distance south of the so-called "Holbein Gate," and, although less elaborate, was of some architectural merit. The sketch seems to be the original of the engraving which appeared in the first volume of "Vetusta Monumenta," published by the Society of Antiquaries in 1725. The drawing itself measures 13 inches by 8½ inches. The Burlington Fine Arts Club included it in their recent exhibition of "Early drawings and pictures of London," held in their gallery in Savile Row. George Vertue was appointed engraver to the Society of Antiquaries in 1717, and made many excellent engravings for them. He also, as we see, practised in water-colour, and his literary works are of distinct value. He collected a mass of memoranda relating to former artists, and this information, now preserved in the British Museum, formed the basis of Horace Walpole's "Anecdotes of Painting in England," the latter writer having bought the original notes after Vertue died, in 1756, at the age of seventy-two.

The R.I.B.A. invites architects who have served in the Forces and desire to be registered by the Central Consultative Board to prepare and carry out housing schemes to send their names to the Secretary at 9, Conduit Street, W.

At the London Sessions, on the 15th inst., Thomas George Grant, aged twenty-one, described as an artist, was sentenced to eighteen months' imprisonment with hard labour for improper conduct in Jermyn Street. Sir Robert Wallace said that he regretted that the law did not allow him to send the prisoner to penal servitude.

SURVEYING AND MAPPING FROM AIRPLANES.*

By COL. E. LESTER JONES, Superintendent U.S. Coast and Geodetic Survey.

War planes were made for various purposes, which I need not enumerate. But the most important thing done from the aeroplane was photographing the enemies' lines and thereby discovering the positions of the batteries, ammunition dumps, the truck systems, and other military facts and features.

The same methods, with some modifications, are now being considered in connection with the mapping of extensive areas by the mapping organisations of the country. In fact, some work has already been done, and experiments are being carried on which promise excellent results.

Surveying and mapping have long histories, and the development of the methods now employed took centuries. But the method of airplane surveying has developed like a mushroom. To what extent is it applicable to our needs? This I shall endeavour to show.

In collecting data for a map those surveying methods must be adopted in any particular case that suit the requirements. If one should wish only a route map running from one village to another, it would be perfectly satisfactory to use a compass for direction and the pacing of a horse or the readings of an odometer on a wheel for the distance between the two points. But maps are usually not so simple as that.

TYPES OF MAPS.

There are several types of high grade maps needed in the country. One must be made along the coasts to show the location of the actual shore line and the character of the ground immediately back of the coast in order that the navigator may be able to locate himself from topographic features along the shore, should he be driven off his course during a storm. In addition the depths of the water and all obstructions to navigation must be indicated on this map or chart; the elevation and shape of the ground on islands and just back of the coast must be shown on the map by contours.

A second class consists of maps on which the features other than elevations and contours are shown in their correct horizontal positions. This type of map would be practically the same as the third type where the area covered is very level. Such an area would be the coastal plain of Louisiana.

The third class covers maps of the interior or of large islands on which all features, cultural and natural, are located in their proper horizontal position, and contours are shown to give the elevations of the ground and the shape of the hills, ridges, valleys, etc. This map would be used by engineers in laying out railroads and highways, and in conducting various classes of engineering work.

These three classes of maps are the ones in which we are most directly interested.

The map which shows the horizontal positions of cultural and natural features on the surface of the earth, but no contours, can be made more rapidly than the one which requires contouring. All that is needed in the former case is some method of obtaining the direction and distance between each two features in the area to be surveyed. The usual method of making such a map is by compass and chain or by transit and tape or transit and stadia or by the plane table. These methods are all very closely allied, and such accuracy as may be demanded may be obtained by varying the methods used.

MAPS CONTROLLED BY FIXED POINTS.

In any event there must be within the area to be surveyed, if it is a large one, a number of control stations. These control stations consist of triangulation stations placed on the highest parts of the ground, or traverse stations which may be along the roads, which are accurately located in latitude and longitude, and which are accurately and substantially marked with concrete or rock in order that they may be recovered and identified

* Address before Second Pan-American Aeronautic Convention, Atlantic City, N. J., May, 1919; contributed by the author.

by any surveyors or engineers who wish to use them.

There are now many thousands of such stations in the United States, established principally by the Coast and Geodetic Survey, available for the fundamental control of surveys and maps. From the stations established by that bureau control of the same or of a lower grade of accuracy may be extended in any direction for the immediate control of topographic maps.

OVERLAPS, GAPS, AND OFFSETS TO BE AVOIDED.

It is readily seen that without the fundamental control, which extends over the whole area of the United States, there would be great confusion. If the control in any one State is not properly co-ordinated and correlated with that of any other State near it, the result will be that when different topographic surveys and maps are joined there will be overlaps, gaps, and offsets which cause no end of trouble and confusion to the cartographer and map maker. When there is a single system of control for the whole country we avoid this unfortunate condition.

3,000,000 SQUARE MILES—LESS THAN ONE-HALF MAPPED.

There is to-day only about 40 per cent. of the 3,000,000 square miles of the United States mapped both as to horizontal positions of the features and the elevations by contours of hills, ridges, valleys, etc. These are the maps of class three, mentioned previously. Some of the 40 per cent. of the surveyed area will have to be resurveyed because the original work was done many years ago when methods were not as refined as they are to-day, and the demands of the map users were not as exacting as they are at present. It is safe to say that not over 30 or 35 per cent. or one-third of the whole country is adequately mapped.

The question is, what shall be done with the other 60 per cent.? This is a question that is puzzling map makers constantly, and no ready solution is at hand provided we insist on having a map of the whole area within a few years.

It is possible that here may be a valuable field for the aeroplane. It is not believed that the aeroplane, unsupported by other surveying, can give the final accuracy required in original surveys. But by its means can be made a map that will be much better than the maps which may be in existence to-day in the areas which have not been topographically mapped. In order that the remaining 60 per cent. of the country might be mapped by aeroplane, it would be necessary to have a great amount of triangulation and traverse run with a view to furnishing the horizontal control for the photographs to be made by the aeroplane. With this control, it would be possible to fit the photographs on the map into their proper positions.

AEROPLANE SURVEYING WILL DEVELOP.

It is not possible to run many miles with aeroplane photographs and expect to have a very high degree of accuracy in the resulting maps, and here I wish to give a word of caution to the advocates of aeroplane mapping, that everything cannot be expected of aeroplane mapping. The development of this science will undoubtedly be rather slow for a few years. After it has been developed methods must, of course, be thoroughly tested before they can be adopted. It is well that this is so, for otherwise haste might cause mistakes which would discredit the method to such an extent that it would take years to recover.

CHARTS OF THE COASTS.

The first class of maps considered here consists of charts of the coast and geodetic survey, which show the level area immediately along the coast, and the water area for some distance out from the shore. The purpose of coast charting is to furnish a safe means of communication by vessels along the coast or in approaching the coast. At present, the methods employed are the usual ones for the topographic surveying of the shore line and the area immediately back of it and the

ordinary hydrographic methods of surveying in the water.

The coast line of the United States has been mapped, but the currents and waves of the oceans cause many large changes in the shore line. In the case of Fire Island entrance, Long Island, New York, this was changed in position about four miles in fifty years. The changes are so rapid that frequent resurveys of the coast must be made to furnish exact and reliable information to the navigator. It is also necessary to revise the area just back from the coast, for roads are frequently changed into position or abandoned, new ones are established, houses are built or burned, villages spring up, woods are removed or grow over what were vacant fields at the time the map was made, and all of these changes should be shown for the use of the mariner. The question arises as to how such revision shall be made.

REVISION OF CHARTS BY AEROPLANES.

From the experience of the engineers of the Coast and Geodetic Survey the revision of an area that does not need contouring is almost as expensive and takes almost as much time as the original survey, for it is necessary to make a test of the position of each feature. It is here that the aeroplane will be of the greatest service, for if a portion of the shore line should be inspected with a view to learning whether or not the map of it should be revised, we could have a series of photographs made by an aeroplane along the coast, and a comparison of the photographs with the original map would enable one to locate very definitely each area within which there are new features or where old ones have changed. It is believed that in most cases the details on an airplane photograph could be placed on the map from the photograph with all the accuracy that is needed in the topography shown on the coast charts.

It is a debatable question as to whether the aeroplane photograph made over a water area will show any outline of dangers to navigation when the plates are developed. If they are shown, there is a vast field for the aeroplane in making photographs over water areas where it is known that many obstructions exist. With the usual surveying methods, it is difficult at times to locate every obstruction. One or more on any chart might be missed. The fact has been proved a number of times in a most disastrous way by vessels running on uncharted rocks both along our eastern and our western coasts and especially in Alaska.

The Coast and Geodetic Survey is now making wire drag surveys of all doubtful areas along the coast, but it will be many years before the bureau can assure the navigating public that all obstructions have been found and accurately charted.

AEROPLANES AND HYDROGRAPHIC SURVEYS.

It may be possible that an aeroplane photograph will indicate submerged rocks or other dangers that are close to the surface of the water. It would be a question of differences in shade in the photograph. If such a detection of danger can be made then one must be very cautious to make the photographs only on perfectly clear days. Otherwise, the cloud passing over makes its shadow on the water which might show on the photograph and cause uncertainty as to whether the spot is a cloud or an actual obstruction.

There are many hundreds of square miles of area along the coast that consist of salt marshes with many streams of little or no importance but which should be shown in their proper relation to other topographic features. These marshes can be photographed from aeroplanes and the streams running through them would probably show in such a way that they could be fitted into the map from the photograph. Here might be a large saving of time for the surveyor in the field.

There are other cases where there are extensive mud flats, when the tide is low, as in Jamaica Bay, New York. To survey the outline for these flats is rather laborious, with the usual instrumental methods, but it is believed that it might be possible to photograph them from an aeroplane and have the results placed on charts. It will undoubtedly

be possible to get these located on the charts from aeroplane photographs with all the accuracy that is necessary for the navigator.

LOCATION OF DANGERS TO NAVIGATION.

In making photographs of the water, for the purpose of discovering obstructions to navigation at low tide it will be necessary to have some means to properly locate photographic features on the chart. This probably can be done by anchoring two or three small boats within the area of the photograph and locating them with relation to triangulation stations. The location could be done in the usual way in which the sounding boat is today given its position, that is by taking two sextant angles simultaneously from a boat to three control points. It can readily be seen that if two or three accurately located boats are clearly shown on the aeroplane photograph, it will be possible to place the topographic details on the map in their proper positions.

I do not wish to convey the idea that the aeroplane photography will supersede the usual methods of hydrographic surveying, but it would supplement those methods by making it possible to discover channels running through mud flats, also coral heads, shoals, and other obstructions which might be close to the surface of the water and which may be missed by the usual methods of conducting hydrographic surveying.

There has been a rather positive statement made above that the aeroplane can be used to advantage in the work of the Coast and Geodetic Survey. This is undoubtedly true but only time and the development of the methods can show just how much the aeroplane can be used by this Bureau.

THE AEROPLANE IN TOPOGRAPHIC MAPPING.

We now come to the third class of maps and that is a subject on which I hesitate to express an opinion. That is the mapping of the interior of the country. This work is undertaken by the U. S. Geological Survey, supplemented to a certain extent by the Corps of Engineers, U. S. Army. The Coast and Geodetic Survey co-operates with those two organizations to the extent of furnishing the fundamental horizontal and vertical control for the surveys and maps but almost all of the actual location of artificial or natural features is done by the other organizations. It is understood that the officers of those two organizations have given consideration to the question of map-making by aeroplane photographs. It is hoped that aeroplane surveying can be developed at least to supplement the usual surveyors' methods in mapping the interior on a comparatively large scale map with high accuracy.

It would appear that if the aeroplane photograph will be of so much assistance in the topographic work along the shores of the country that it would really be of some value in the interior.

Whether or not it is possible to make contours from aeroplane photographs is a question that has not yet been decided. Many persons who have studied the question claim that it is impossible to locate accurately contours from aeroplane photographs. Others claim that they can be located with great accuracy. The chances are that some mean position will be found to be the true one. It is possible that the stereoscopic method can be applied to two photographs taken by two cameras on the same aeroplane or by cameras on two different aeroplanes together to obtain a rough idea of the configuration of the country.

SURVEYING THE INTERIOR OF THE COUNTRY.

With regard to surveying the interior of the country for the purpose of making an accurate large scale contoured map, I may say that here the aeroplane photographs can undoubtedly supplement the usual surveying methods, but cannot entirely supplant them.

Such a map should probably be on a 1/50,000 scale, that is one foot on the map would equal 50,000 feet on the ground, and the distance between control points on the opposite edges of the area of a map should be correct within about 1 part in 10,000. The only method by which this can be accomplished is that of triangulation and transit and tape traverse.

The method to-day is to establish the triangulation and traverse stations ahead of the topographic surveying, with the geographic positions, that is latitude and longitude, computed on the North American or final datum. When the control points are placed on that datum their positions will not have to be changed when two maps are joined.

The control, that is triangulation and traverse, bears the same relation to the topographic mapping of the country that the steel framework of a sky-scraper bears to the detailed portions of the building, such as walls, floors, doors, windows, etc. If the steel work is not accurately fastened and adjusted when erected, before the detailed portions are started on a building, it is reasonably certain that the building will be distorted in shape and will be structurally weak.

The same idea pertains to maps, and the difficulty mentioned actually exists to-day in some parts of our country, where the detailed mapping of certain areas had to precede the triangulation and traverse on the North American datum. The results have been overlaps, gaps, offsets, etc., when two maps, based on different datums, have been joined together.

LATITUDES, LONGITUDES AND ELEVATIONS NEEDED.

It is the province of the Coast and Geodetic Survey to extend the fundamental control that is latitudes and longitudes throughout the country in long arcs. These arcs are interlaced in order that the requisite strength may be obtained. This work has been carried on as vigorously as the funds at the disposal of the Survey would permit. We have arrived at a situation to-day which demands that this work be exploited, and it is hoped that Congress will respond to our appeals for funds in order that the work may be carried on so rapidly that all mapping operations of Federal, State, City, County, and private organisations may have their needs met. This is a very urgent matter and I shall do my utmost to persuade the authorities to give this branch of Federal surveying ample support, in order that the country may be mapped more satisfactorily and more efficiently.

When this control is available in any area, the usual method is to have surveying parties in the field place the topographical features of the maps in their proper relation to the control points. Every object on the face of the earth has one, and only one position, and it is the duty of the surveyor to place that object, whether it is a road crossing, a bridge, the top of a hill, or any other object, in its proper position on the map. On the most exact map for military purposes a well defined feature is placed on the map within thirty feet of its exact relation to the nearest control station. Other maps have larger allowable discrepancies.

The work involved in the topographic surveying consists not only in placing the features on the map in their correct horizontal positions, but it is also necessary to show by contours the lines of equal elevation, the slopes of the ground, the shapes of hills and the exact elevations of a number of critical points.

The elevations are based upon lines of levels run inward from the oceans. The surface of the ocean, if it were at rest, would be a continuous one, and thus the mean position of the surface serves as a datum plane from which to measure heights in the interior of the country. More than 40,000 miles of the highest grade levelling has already been established in the interior of the country, and there are more than 20,000 precise levelling bench marks whose elevations are known within a very small portion of a foot.

In addition to the above, there are many thousands of miles of levelling of a lower grade of accuracy, which is used for the immediate control of the topographic surveying.

It is the duty of the Coast and Geodetic Survey to extend the lines of precise levelling into the interior of the country for the purpose of furnishing starting points for the levelling needed for the immediate use of the surveyor and engineer.

What has been said in regard to the fundamental horizontal control is also applicable to the precise levelling. Many more thousands of miles of this grade of levelling are needed

in the United States to-day, and it is hoped that my Bureau may be given the support necessary to complete that work, or so much of it as is immediately needed, within the next few years.

TOPOGRAPHIC SURVEYING WITH PLANE TABLE.

The topographic surveying is done generally by means of the plane table, which consists of a tripod and certain fixtures and a plane board mounted thereon. The board is approximately 24 x 30 inches in horizontal dimensions. On this board is placed a sheet of paper on which the topographical features are shown. On the paper there will have been placed before going to the field, the positions of the control points, and with these as starting points, the topographer weaves a net showing the various features of the earth's surface by means of symbols. These symbols have been standardised by the map users of the United States. Any one using one of the high-grade maps should be thoroughly familiar with the symbols in order that he may make far greater use of the map than if he were ignorant of many of them.

It seems to be absolutely necessary, in making the contoured survey, to do the work with the present methods. One can readily understand that it would be impossible to show contours at intervals of 20 feet (that is the difference between two contours will be that amount) over a wooded area, where trees in different parts of the forest varied in height. The area photographed will not show the differences of elevations of trees in a wood, for the low trees and bushes not more than 20 feet in height would show about the same on a photograph as a primitive forest where the trees may be 70 to 100 feet high.

ENGINEERS NEED ACCURATE MAPS.

The contoured map must be of such accuracy as to enable the highway engineers, and engineers engaged on irrigation projects, to lay out their work accurately. It can be readily seen that with an accurately contoured map, the engineer could plan the railway, the highway, etc., from one place to another, and not make great mistakes in grades and alignment. It is believed that this would be impossible from a contoured map made from aero-photographs. It is possible that some method may be discovered by which the differences in elevation between two points shown on each of two separate photographs can be computed, but if one considers that the work involved, if it can be done at all, will be very great, he will see that it will probably be more economical to put the contours on the map by the usual methods than to compute innumerable elevations from photographs.

The possible method of computing distances and elevations from photographs may be supplemented by using the stereoscopic method which would give one an idea of the configuration of the ground. This would enable the draftsman in the office to select critical points whose elevations could be determined. Such critical points would be crests of hills or ridges and the bottoms of slopes. If the elevations of critical points are determined then contours could be interpolated between them.

I am giving these statements with a good deal of reservation on my part, for the method of contouring by aeroplane photography has not been developed, and it may be that very little can be accomplished where accurate contouring is desired.

AEROPLANE SUPPLEMENTS PLANE TABLE.

But this accurate large-scale contoured map can undoubtedly be made by combining the usual methods of surveying with the aerophotographs. The aerophotograph will usually give a great deal of detail which may facilitate the progress of the map by the topographer to select a number of definite points on his map, such as road-crossings, large buildings, groups of buildings, bridges, and other features which can be identified from the photographs. These features would serve as control points for the topographic details shown on the photographs. Without such points located by the usual methods, it would be necessary to place certain conspicuous objects on the

ground near the triangulation and traverse stations. Most any kind of object that would show in the photograph, and have a distinct shape, could be used. But the placing of these objects would be expensive. It is believed that the location of the conspicuous features referred to above could be done by the topographer at a much smaller cost than the cost of placing objects for the aerophotographs at the triangulation and traverse stations.

It is possible that the topographer would be able to place the topographic details on his map from the photographs before going into the field to do the contouring. Much of the work of the topographer by the usual methods consists in placing the topographic features on the map in their proper location, but a great deal of this might be obviated by the use of the photographs. Then he could go into the field and place the contours with greater rapidity than if he attempted to do so previous to using the details of the photographs.

AMERICAN ARCHITECT URGES ADVERTISING NEED.

Discussing the merits of the structural work of the large building company as contrasted with that of the architect, in an opinion submitted to the Post-War Committee on Architectural Practice of the American Institute of Architects, Elmer Grey, of Los Angeles, says:—

"The product turned out by the building company method is not at all the same as that turned out by capable architects. Much of the public, however, does not know the difference—and here is where advertising should come in.

"The rates the building companies charge are no lower than those which high-priced architects charge, only they are so camouflaged as to appear to be lower to those who do not investigate the matter thoroughly. The standard of work of the building companies is not high, however. Their business success depends upon the fact that at their heads in each instance is a man who is a wizard at salesmanship. Theirs is a talking game.

"One of their heads, for example, recently spent an entire afternoon trying to get me to join his organisation, and in order to do so he told me about his methods. It was illuminating! He was not an architect, not possessed of an architect's training or ability, yet he professed to be the intelligent creative genius and director of his designing department. The designers these companies usually employ are draftsmen of mediocre ability.

"If the building company plan were giving the public better service than the professional plan, it should survive and supplant it. I should then wish to join with a building company, and, as I have said, I have had an opportunity. But it does not. The above experience is not the only one I have had with building companies. In another instance, one of my clients who succumbed to the wiles of a building company salesman let him have their construction work on a percentage basis, and on a \$10,000 house her decision, against my advice, cost her something over \$600. I had a bona fide bid for that much less amount from a reputable contractor.

"I believe from this and other experiences that the professional plan separated from the contractor is distinctly better for the owner than the building company plan—better not only from an æsthetic point of view, but also from a financial—and it is only advertising that will acquaint the public with the difference. I believe the war has taught us the value and the necessity of such propaganda."

The question of building a public hall at Padiham is under consideration.

Mr. William A. Pite, F.R.I.B.A., has taken into partnership Mr. Hubert M. Fairweather, who has assisted him for over ten years, and also his son, Mr. Robert W. Pite, as from January 1, 1919. Their address is 116, Jermyn Street, St. James's, London, S.W.1. Telephone, Mayfair 692.

THE COMPETITIVE CONTRACT SYSTEM: SHOULD IT BE RETAINED, ABOLISHED, OR MODIFIED?

By F. H. A. HARDCASTLE, A.R.I.B.A., F.S.I.

PRIME COST PLUS PROFIT METHOD.

A man proposing to build desires to know three things:—

1. What he is going to have.
2. When he may expect to have it.
3. What he will be called upon to pay for it.

And we have been accustomed to answer these questions with approximate accuracy. As regards the second and third of them, however, for the reasons we have heard this morning, no answer can in present conditions be given, and we have fallen back upon what is known as the prime cost *plus* profit system, under which many millions' worth of work has recently been carried out. Some there are who recommend its permanent adoption. But, as we here all know, it is open to serious objections. Under it it is impossible to avoid a notable diminution of effort. No one, down to the humblest labourer, has any strong incentive to be industrious or economical.

I do not for a moment represent that, in the emergency which confronted us during the war, the use of this method was not amply justified, and I recognise the zeal and ability displayed in working it and in minimising its dangers. And, under the stimulus of patriotic emotion, when the country was fighting for its life, a measure of success attended it such as could not be expected in time of peace. The fact remains that its drawbacks are so patent and inherent that it can never be other than an emergency measure.

COMPETITION.

Now I am well aware that competition has of late years been much attacked by a well-known school of social economists as wrong in principle—even immoral—and one writer, indeed, has laid down the dictum that "competition, theft, and war are all in principle the same." And there can be no doubt that, pushed to an extreme, as in some of its developments in America, competition becomes distinctly anti-social. But the instinct of competition is, after all, rooted in human nature. There is such a thing as fair competition. There is wealthy competition. Competition enters into the best of our sports, from cricket downwards. And in business, as in pleasure, man needs competition as a spur to prick the sides of his intent, and to raise the general level of effort.

I have heard it said of late that contractors will never consent to go back to the competitive system of tendering, but I do not believe it. Indeed, some of those with whom I have conversed are by no means enamoured of the prime cost *plus* profit method. Besides the constant interference and inspection that it involves, and the air of suspicion that surrounds it, besides also its disastrous effect on labour, they find it leaves scanty scope for energy and skill in management, for tact in the handling of men, for alertness and initiative in devising labour-saving arrangements, and seeking out and seizing favourable opportunities of purchasing material. On the contrary, it tends to reduce everyone to a dull level of mediocrity.

CHANGES IN PRICES.

At the same time, at any rate for a few years, we can hardly ask contractors to take some of the risks they have faced in the past. He would, indeed, be a bold man who professed to predict what will occur in respect of the cost of labour and materials in the immediate future, or, for that matter, in the remote future either. How, one asks, are contractors to compile estimates which can be depended on by them or by us? If all the contractors tendering in any given instance are prudent and conscientious men they must include in their estimate—to provide against possible extra cost under the heads above mentioned—a substantial sum of money,

which sum may quite possibly never be required. On the other hand, if one of those tendering is optimistic or reckless, he makes no such provision, he will almost certainly get the work, and in all probability, later on the client and the architect will have to consider appeals on the ground of serious loss from causes unforeseen and beyond the contractor's control. An unpleasant controversy ensues, and the matter usually ends in an allowance being made. Thus, either way, the building owner pays.

A not unusual clause in recent contracts is the following:—"In the event of any alteration in the price of materials or the wages or conditions of labour the contract price shall be varied accordingly."

It is worth consideration whether it would not be advisable, at any rate for the present, that all contracts should contain this clause. I deprecate any system that involves inspection of the contractor's books and papers. Besides being inquisitorial and out of harmony with our national habits, it would tend to produce an objectionable race of experts in book-keeping. If the expedient I suggest were to be generally adopted, official lists of agreed rates of wages and current prices of all the chief materials would be published at frequent intervals. The excellent lists published weekly in *The Builder* newspaper would furnish a basis. Every tender would be held to have been based upon the prices current at the time when it was made, and any modification would have to be justified by reference to recognised published price lists. There would not, I think, be any great difficulty in applying this method. I have not found it so. It will be apparent that room is here left for the profitable exercise by a contractor of intelligence, enterprise, and resource.

NATURE OF SITE.

Another risk of which it might be wise to relieve the contractor is that arising from the nature of the site. My old master and friend, the late Mr. T. M. Rickman, always maintained that this is a risk that should be taken by the building owner. Nor do I think that the building owner would in the long run suffer by it. As in the instance I have already mentioned, at present he stands to lose either way.

PENALTIES FOR DELAY.

Again, there is the question of liquidated damages for delay, which, in view of the admitted uncertainty of obtaining labour and materials, now assumes a new aspect. On the one hand, the contractor cannot be expected to bind himself to fixed dates, and on the other the building owner ought not to be exposed to the risk of his work being unfairly held back by the contractor for the benefit of another more favoured or more important customer. I feel great diffidence in suggesting a solution of this difficulty. Possibly it may be found in enabling the building owner to put the contractor on proof before the arbitrator, at any time during the contract, that he was doing all that was possible to expedite the progress of the work.

METHOD OF MEASUREMENT.

Lastly, there is the question of the method of measuring work, whether from the work itself or from drawings, for the purpose of bills of quantities. It is most desirable that we should regularise the mode in which work shall be measured and the form in which the result shall be expressed. It is unscientific and inconvenient that the signification of the items given in a bill of quantities, instead of being definite, should vary with the name of the surveyor on the back of the bill. A model method of measurement has already been drawn up, agreed, and adopted in Scotland, and the National Federation of Building Trades Employers has put forward a request that a schedule should in like manner be compiled for this country.

GAMBLING ELEMENT.

The upshot of the remarks I have had the honour to lay before the Conference is that the competitive contract system must be retained, but that some modifications might be made in it, at any rate for the present, and the governing object of those I suggest is to get rid to some extent of the element of

gambling which it now contains—and this in the interest of building owners, architects, and contractors alike.

L.C.C. HOUSING SCHEME.

At its last meeting the London County Council approved the proposals of the Housing Committee for the provision of the first 10,000 dwellings under the council's housing scheme within two years from the date of approval of the scheme by the Ministry of Health. The scheme as a whole provides for 29,000 new houses within five years of the approval of the scheme by the Ministry, with accommodation for approximately 145,000 persons.

The Committee in submitting the scheme for the provision of working-class dwellings estimated the total capital expenditure involved in the acquisition and laying out of estates and the erection of cottages under Part III. of the Act of 1890 as £23,560,000, or £24,820,000, according to the number of houses (20 or 15) to be provided to the acre, while the cost of slum clearances and rehousing under Parts I. and II. of the Act is estimated at £5,370,000. The total expenditure under both heads may, therefore, be taken as approximately £310,000,000.

It is clear, they say, that under present conditions anything approaching an economic or remunerative rent cannot be expected. Indeed, on the information available the annual deficit on the first 10,000 cottages is estimated at from £451,393 to £481,544, according to the number of houses per acre, which represents a deficit of from £45 2s. 9d. to £48 3s. 1d. a year per cottage. As regards the remaining 19,000 cottages the deficit is estimated at from £582,467 to £628,291, or £30 13s. 1d. to £33 1s. 4d. a year per cottage. To these figures has to be added the estimated annual deficit of £103,527 on block dwellings to be provided for rehousing in connection with the clearance of insanitary areas, which, however, cannot be undertaken before some progress is made with the provision of new accommodation elsewhere. The ultimate annual deficit upon the completion of the scheme is estimated at from £1,124,172 to £1,200,142.

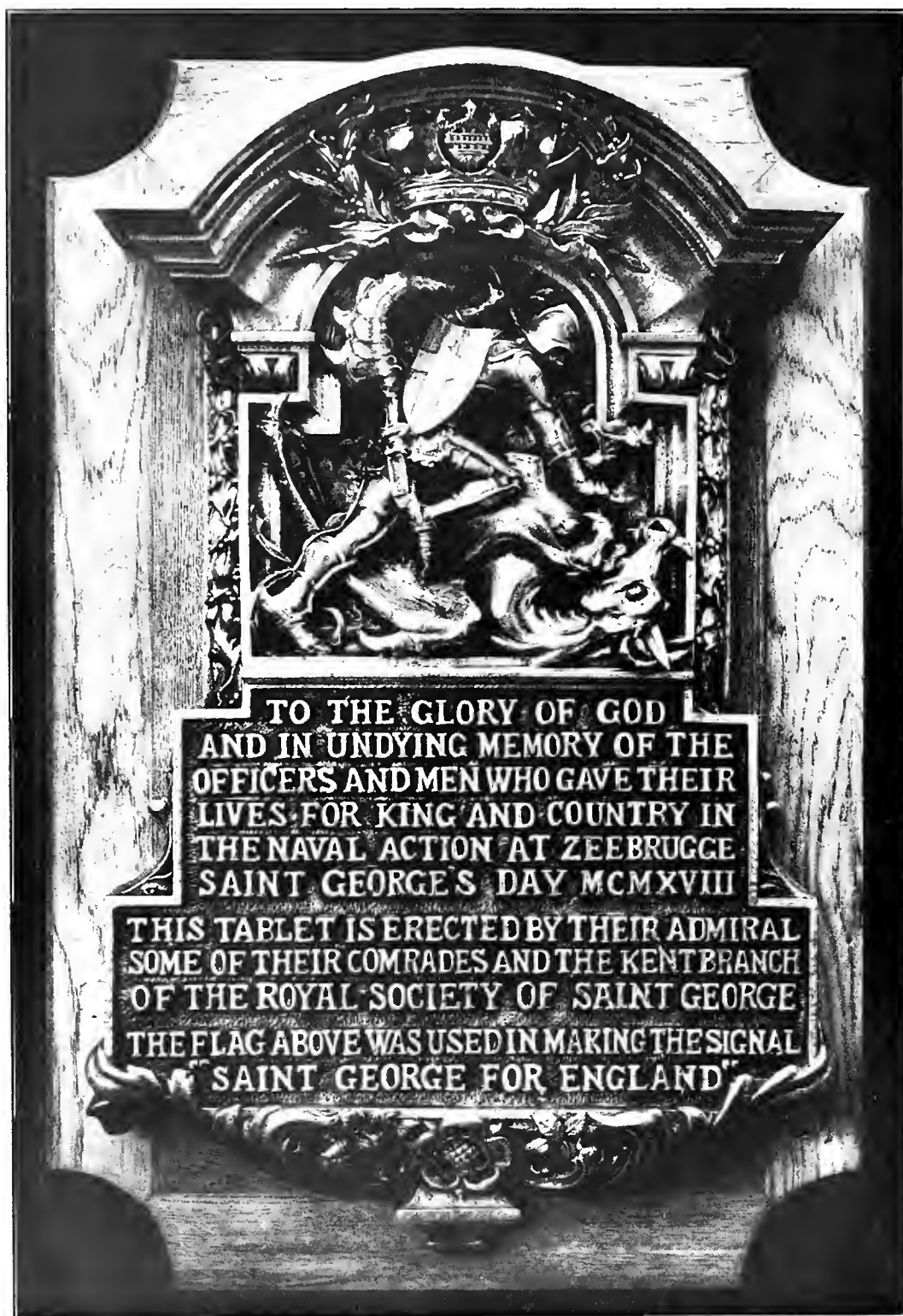
The Finance Committee, reporting on the proposals and the estimated financial results, state:—

We observe that the rents on which the estimates are based are less than half the remunerative rents, and more than half the cost of the cottages would have to be borne by public funds. We desire to draw special attention to this in view of the statement reported to have been made by the Minister of Health (Dr. Addison), speaking as President of the Local Government Board a few weeks ago, that "where the circumstances of the districts allowed it they ought to aim at getting an economic rent on two-thirds of the cost as soon as they could." The questions arise whether rents which fall so far short of the suggested standard will satisfy the Ministry of Health, whether it would be possible or practicable to charge higher rents to the tenants of the class for whom the houses are primarily intended, and whether the houses should or could be let to better-class tenants who can pay a higher rent approximating to the remunerative rent. We gather that the question of rents to be charged does not form part of the scheme to be submitted to the Ministry, and that the Council will not be asked at present to arrive at a decision thereon. We desire, however, to take this early opportunity of expressing our opinion that, from a general financial point of view, it is most undesirable that so large a proportion of the cost should fall on public funds.

The proposal from the Housing Committee was approved for expenditure on capital account of £576,565, in respect of the erection of 650 cottages and two shops, and the construction of roads and sewers on the eastern section of the Old Oak estate.

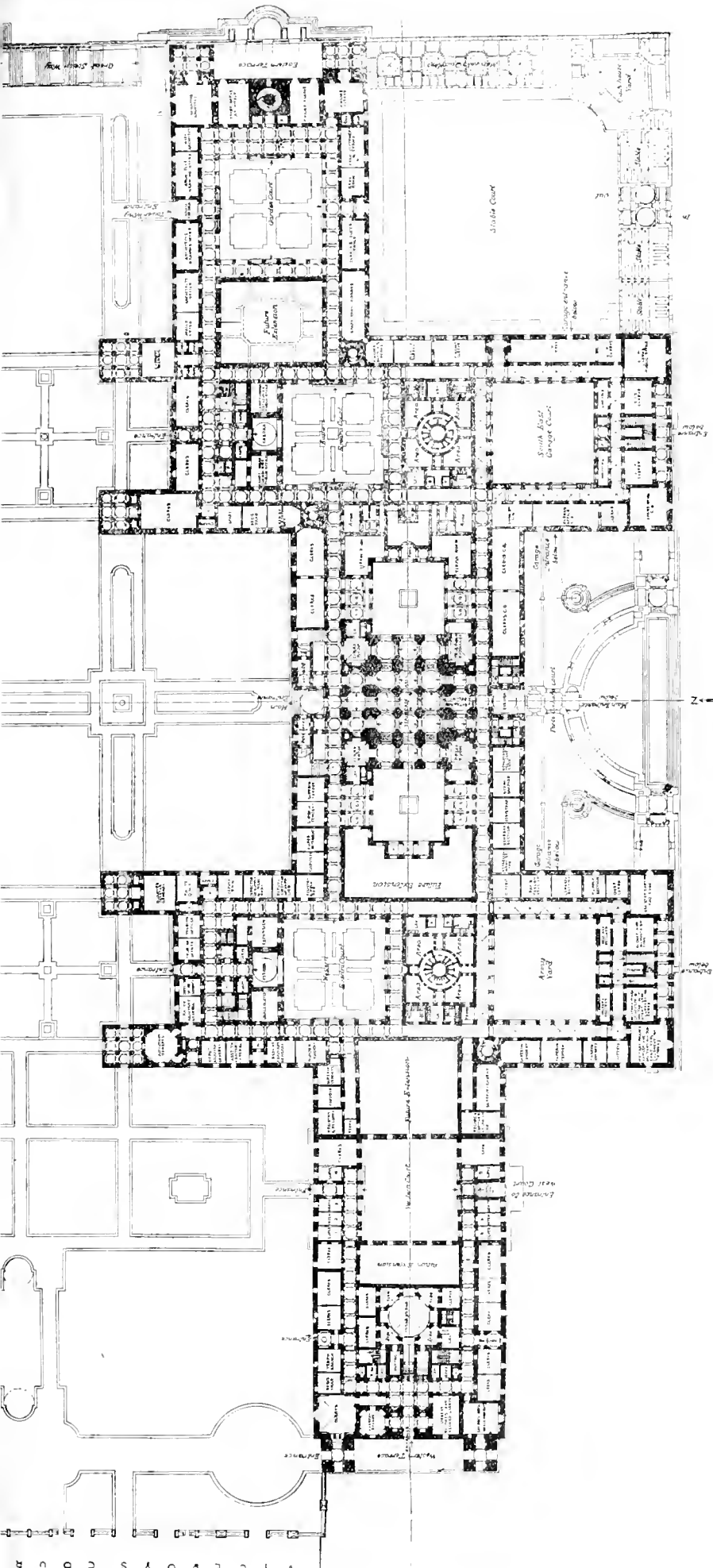
The Monifieth Town Council has approved plans, submitted by Mr. Charles A. Mackenzie, architect, for building fifty houses at the west end of the town.

* Read at the Building Industry Conference in London on May 20, 1919.



THE ZEEBRUGGE TABLET WAR MEMORIAL,
Church of St. George the Martyr, Canterbury.
Designed and executed by Mr. OMAR RAMSDEN.

Architectural floor plan of the University of Chicago, showing the layout of the main building complex. The plan includes a central 'Great Hall' and 'Circular Court', surrounded by various lecture halls, classrooms, and administrative offices. The building is situated on a corner, with 'SIDE ROAD' to the left and 'PROFESSIONAL WAY' to the right. The plan also shows the 'University of Chicago' name and the year '1892'.



IMPERIAL DELHI SECRETARIATS SOUTH BLOCK GROUND FLOOR PLAN

IMPERIAL DELHI : PLAN OF THE SECRETARIAL BUILDINGS.
MR. HERBERT BAKER, F.R.I.B.A., Architect.





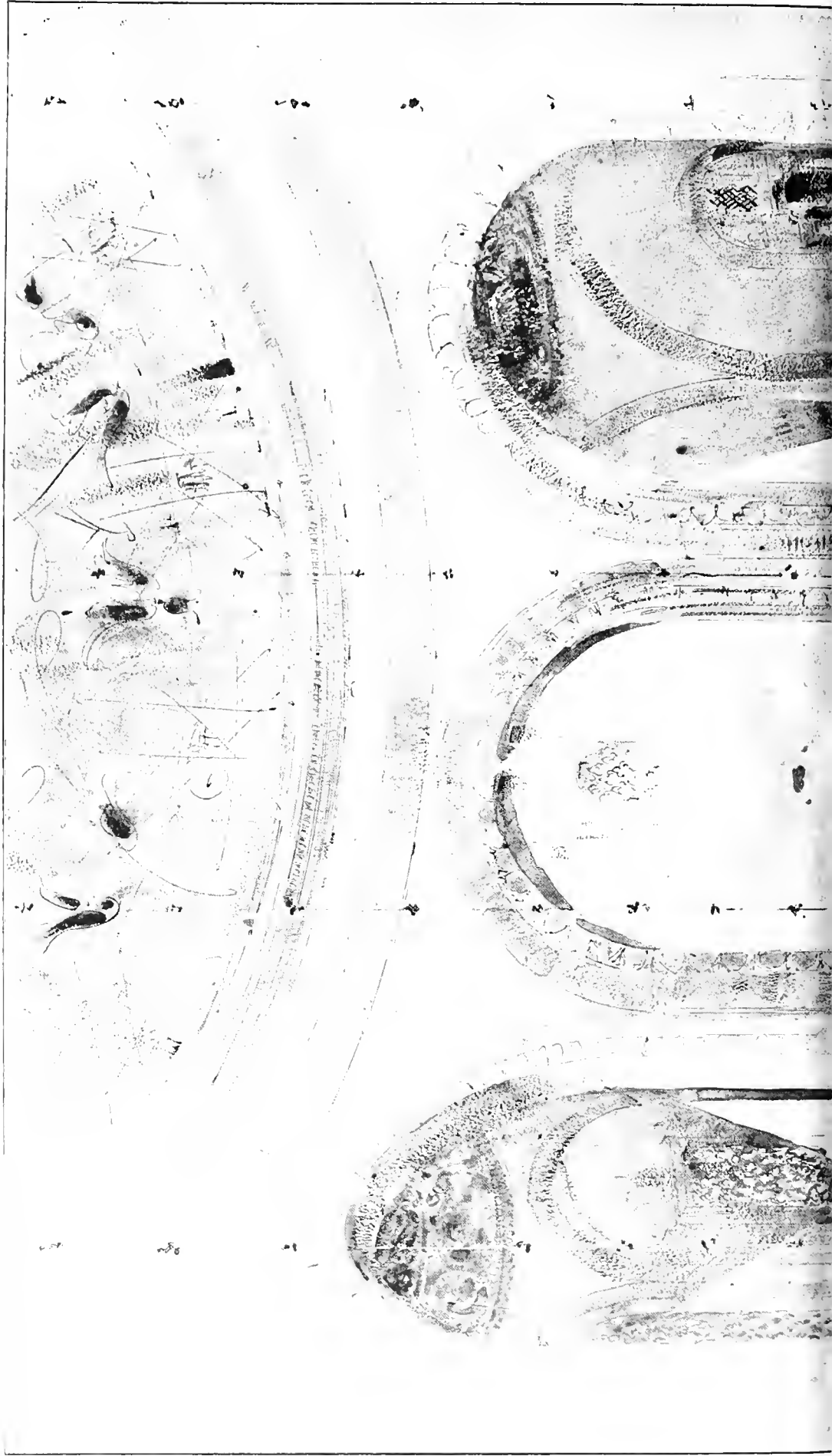
KING STREET GATEHOUSE, WESTMINSTER, 1723.

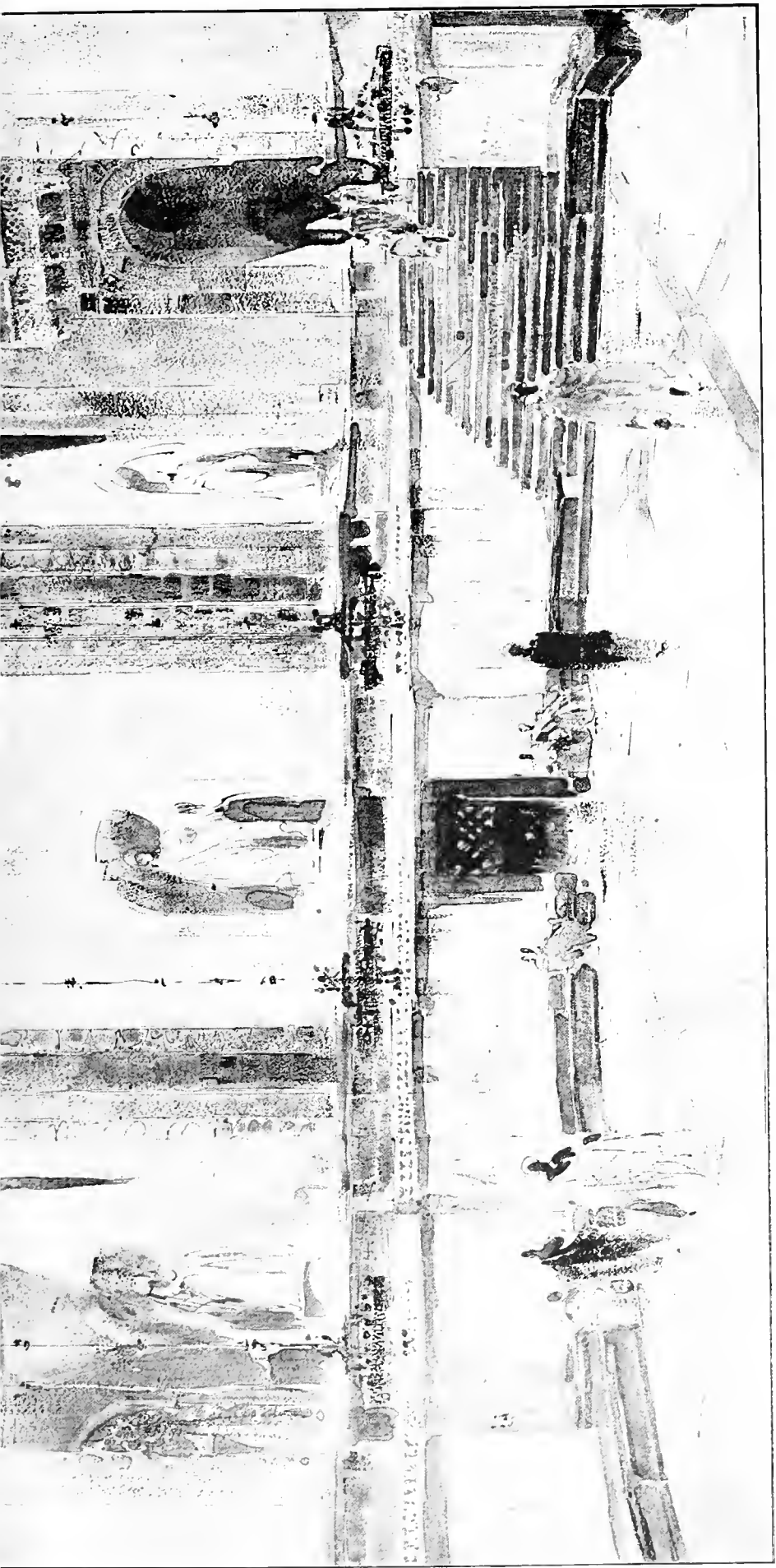
Water Colour by GEORGE VERTUE.

Lent by H.M. THE KING, from Windsor Castle.



THE BUILDING NEWS, JULY 23, 1919.





INPERIAL DELHI : GREAT HALL OF THE SECRETARIAT.
Mr. HERBERT BAKER, F.R.I.B.A., Architect.

Correspondence.

UNITY OF COMMAND.

To the Editor of THE BUILDING NEWS.

SIR,—The letter which appeared in your issue for July 16 under the above heading has only been read by me this evening, for reasons which my address will sufficiently indicate, but the subject-matter appeals to me strongly, so that I cannot resist the temptation to sit up and answer it, and to make an effort to get my letter posted in time for publication in next Wednesday's issue.

The proposal for amalgamation of Institute and Society is no new one. Some eight years ago I took a considerable part myself in the formation of a joint committee of the two bodies for this very purpose. The difficulties proved to be great, but they were faced honestly by both sides, and what was thought to be a workable arrangement was come to after protracted and most careful discussion, which was both frank and friendly. Of course, it was a compromise, requiring sacrifices from both bodies; and it was "referred back" when laid before the Institute in general meeting. Under these circumstances, it was never officially considered at all by the members of the Society as a whole, but I remember well having full conviction that that body would have dealt even less ceremoniously with it. Possibly the details had not been fully thrashed out; at any rate, the rank and file of neither body were prepared for the sacrifices demanded of them.

The joint committee never met again, and the matter was dropped; but officially the committee still exists and could easily be revived, though of the original members but few may now be available, and one at least has died—Mr. Bond, who as President of the Society secured the highest esteem of everyone by his candid and clean honesty. Possibly a new committee, however, would best meet the new conditions of this post-war period, and be best able to propound a new solution. We have all learnt many lessons during the last five years, but I still believe, as of old, that unity must be sought under a Registration Act on the lines of the Bill so long ago proposed and drafted—amended, perhaps, to meet changed conditions and the new spirit of mutual dependence which the war has brought about, but in substance the same thing.—Yours faithfully,

G. A. T. MIDDLETON.

Cologne, July 19, 1919.

PROFESSIONAL AND TRADE SOCIETIES.

SCOTTISH ECCLESIOLOGICAL SOCIETY.—On the 12th inst. the Scottish Ecclesiological Society visited Largo. From Lower Largo the visitors proceeded by the Serpentine Walk to the Kirkton, and were received at the church by the Very Rev. Professor Cooper. After the service Professor Cooper gave a brief sketch of the history of the parish and church, alluding to the interest of such monuments of antiquity as the Standing Stones of Lundin; to the traditions of hidden treasure near Largo Law and the discovery in 1819 on Norrie's Law and of a stone coffin containing a suit of very ancient silver armour, with a sword belt and other articles, the silver plates of which showing the "spectacle" and "broken sceptre" ornament; the story of the church and its associations with Sir Andrew Wood, Admiral of the Scottish Fleet in the reigns of James III. and James IV., two of whose most famous victories over the English were won within sight of the Fife coast, and with Alexander Selkirk, the original of Robinson Crusoe, of whom early mention is found on more than one occasion in the kirk-session records. Dr. Thomas Ross spoke of the architecture of the church, the original of which had been rededicated by Bishop de Bernham, of St. Andrews. Afterwards they visited Sir Andrew Wood's Tower, which is all that remains of the residence he erected—it is said by the labours of prisoners taken by him as the price of their freedom.

THE NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS.

The Lord Mayor (Sir Horace Marshall), addressing the National Federation of Building Trades Employers at their conference at Carpenters' Hall last Wednesday, said it was evident that the after-war comfort of our people and the development of our commerce depended upon immediate and speedy operations in the building industry. The need was so urgent that it could best be met by co-operation rather than by competition. He understood that the general object of the Federation was to establish fair conditions for both employers and workmen and to encourage good work. That was an ideal which must become a reality. It was interesting to note that the building trade was the first to get a Whitley Committee into working order. He believed that in tackling the urgent problem of housing, builders and others concerned in its solution would be actuated by patriotic as well as commercial motives. The City of London was responding to the Government's appeal by inaugurating a £2,000,000 housing scheme. He believed that builders would act in this matter with patriotic as well as commercial motives. In the new era of construction there was an opportunity for the Federation to act as guide, philosopher, and friend, and thus to exercise a beneficial influence on the building industry. Although he was not a builder, he was, when not Lord Mayor, an employer of labour. All good employers were desirous that labour should have its fair share. It would be a poor look-out for the country if Capital and Labour did not work harmoniously together.

Mr. F. L. Dove, president of the Federation, said he could claim on behalf of the building trade—the second industry in the country—that there had during the war and since been less strife than in many other industries. Disputes had for the most part been adjusted by conferences, and the outlook on the whole was good.

The business of the conference was then proceeded with, following the agenda which we gave on p. 27 of our issue of July 9.

STATUES, MEMORIALS, etc.

ACTON.—For some months the Acton War Memorial Committee has had under consideration a war monument as an adjunct to its main scheme of extending the local hospital. The design of an Arch of Remembrance, which we illustrated in our issue of July 9, was rejected on account of its cost, £5,000, and now the alternative scheme of a Wall of Memory, to be erected on the Mount in the centre of the town, has been postponed until sufficient funds have been received for the hospital. Of £20,000 required, a total of £2,607 has been, so far, given or promised.

DUBLIN.—Last Thursday afternoon about 200 men and women representing both Unionist and Nationalist opinion, met at the Viceroyal Lodge to promote an Irish national war memorial. A resolution approving of the proposal to erect in Dublin a permanent memorial to Irish officers and men who had fallen in the war was adopted unanimously. It suggests that the memorial shall take the form of a home to provide board, lodging, and recreation for men who fought in the war and for those who are serving in the Imperial Forces of the Crown. Captain Stephen Gwynn urged that the officers and men should be consulted about the form of the memorial, and the Lord Chancellor suggested that this point might be considered by the executive committee which was appointed.

ELLESMERE COLLEGE.—The provision of a Chapel at Ellesmere College, as a memorial to those Ellesmerians who have fallen and those who have been preserved during the war, has been under consideration for some time, and the Memorial Chapel is to be commenced shortly. The architectural features have been designed by the President of the Royal Academy (Sir Aston Webb). In addition to this new building, a new wing is being built to accommodate 80 boys.

HARROW.—Plans are on view in the Art School, Harrow, of one part of the proposed Harrow School War Memorial. On the ex-

hibited plans it is proposed to demolish Dame Armstrong House and the other buildings situated between the Old School and the Chapel, and to erect on the site a commodious memorial hall, which will contain a war shrine, a picture gallery, in which will be placed portraits of Old Harrovians who fell or distinguished themselves in the war, a hall, offices, and a masters' common room. In front of the entrance to this building, almost opposite the Vaughan Library, it is proposed to erect a memorial cross suitably inscribed. The alternative plan shows the demolition of the row of shops opposite the Headmaster's house, and the proposal to erect in their stead a building which would contain class-rooms, a masters' house, a war shrine, and cloisters, with accommodation for offices and the school custos. In the event of fortunate developments, it may be possible to carry out both schemes.

HOLLAND PARK.—Last Wednesday the Bishop of London dedicated and Sir Aston Webb, P.R.A., unveiled at Linton Home School, Holland Park, a memorial to fallen old boys of the school, who numbered 76 and included a son of Sir Aston Webb. Over £500 had been subscribed, and it was resolved to devote the balance of the fund to leaving scholarships.

KIRKCALDY WAR MEMORIAL.—On the recommendation of the Provost's Committee, Kirkcaldy Town Council, by a majority, agreed to approve generally of the proposal that the war memorial in Kirkcaldy should take the form of acquiring Whytehouse grounds and building, and devoting it partly to purposes connected with the Y.M.C.A. and the Y.W.C.A. The proposed memorial includes tea gardens, bowling green, band-stand, and a monument.

MEMORIAL TO EDMUND BISHOP.—The Somerset Herald, Mr. Everard Green, appeals for donations for a memorial to the late Mr. Edmund Bishop, who has been called "The Fertiliser" of all serious liturgical research in England and on the Continent. Mr. Bishop died at Barnstaple early in 1917, and is buried at Downside Abbey, near Bath. Many have asked Mr. Everard Green, as one of his oldest friends, if a suitable monument to his memory could be placed in Downside Abbey Church. The Abbot of Downside has given a sympathetic consent, and Mr. Green would be glad to receive donations at the Athenæum Club from any of Mr. Bishop's friends who would wish to share in doing honour to his memory.

PURLEY.—The Lord Mayor (Sir Horace Marshall), as President of Purley Cottage Hospital, has signed an appeal for £25,000 with which, when raised, it is proposed to improve the hospital and make it the war memorial of the district.

STAMFORD.—At a meeting of the congregation of All Saints' church last week it was decided that, as a parish war memorial, a stained-glass window and a brass tablet containing the names of all the men from the parish who had fallen in the war be erected in the church. It was also decided to organise a parish council.

WARWICKSHIRE WAR MEMORIALS.—The character of a number of permanent war memorials in Warwickshire has been decided. At Coventry it is hoped to raise £50,000 to purchase and lay out 120 acres of land (with certain common rights), as a public park for the city. Kenilworth's arrangements include a public hall and club for ex-service men. Bedworth is to have a massive stone or marble monument. Three new bells are to be placed in Exhall Parish Church at a cost of £350. Atherstone is to have a cottage hospital. At Meriden, Mrs. Banks, of Meriden Hall, is having the ancient Cross repaired—the Meriden Cross was supposed to mark the centre of England—with the idea of having the names of the fallen affixed to it.

Mr. J. W. Roberts, Pwllheli, has been appointed architect by the Llyn Rural District Council under their housing schemes. It is proposed to erect 187 houses.

Building Intelligence.

THE METROPOLITAN WATER BOARD'S NEW HEAD OFFICES.—As will be remembered, in November, 1914, the tender of Messrs T. W. Heath and Son for the above, amounting to £110,004, was accepted on an estimate of £120,600. Messrs Heath's tender was the lowest received, being £9,078 below the next lowest tender, and the contract provided for the completion of the works within eighteen calendar months from January 4, 1915, and the estimate of £120,600 covered the amount required for the architect's and quantity surveyor's fees, the wages of the clerk of works, and the sum of £600 for alterations to the filter bed at Rosebery Avenue and provided for contingencies. On October 1, 1915, the Board assented to the transfer of Messrs Heath's contract to Messrs. Rice and Son, subject to certain terms and conditions, including the payment to Messrs. Rice of an additional sum of £4,132, making the total sum payable under the contract £114,136. On June 25, 1916, the Ministry of Munitions, under the Defence of the Realm Act, required the Board to discontinue the work and the engagement and employment of workmen in the construction of the new offices. Disputes subsequently arose between the Board and their contractors as to the cost of the protective works to be carried out at the new building. Messrs. Rice eventually carried out the necessary works, and under the terms of settlement between the Board and Messrs. Rice, approved by the Board on May 10, 1918, the cost was borne by the Board, and amounted to £3,200. Under the terms of settlement it was agreed that Messrs. Rice should complete the new building within a period of twelve months from the date of the architect's order to proceed, upon the basis of prime cost plus 12½ per cent. for establishment charges and profit. The total expenditure incurred by the Board up to the present time in connection with the erection of the new offices, including the cost of the protective works, is £107,865, and the estimated further expenditure, including £1,500 which is to be added for rough concreting of basement floors, etc., is £150,202, or a total of £258,067.—The last mentioned amount includes the sums required for the architect's and quantity surveyor's fees, the clerk of work's wages, and the preliminary expenses mentioned above. The expenditure already authorised is £132,247. Part of the £175,000 to be paid to Messrs. Rice is included, and the balance only remains to be provided. The further sum now required to be authorised is therefore £125,820. In submitting the figure of £175,000, the architect points out that the average increase of prices of materials, etc., required under the contract is 100 per cent., while in some cases the actual increase is between two and three hundred per cent. The architect's estimate for furniture, fittings, etc., required at the new building is £25,342, in addition to £2,638 already voted for telephones and electric clocks.

COMPETITIONS.

PEKIN.—The Directorate-General of Posts at Peking has settled a competition just held by invited architects practising in China for the new General Post Office building at Peking. The committee adopted the rules governing competitions as issued by the R.I.P.A. About half a dozen local firms sent in designs, with several more from the surrounding districts. The drawings have been publicly exhibited, numbering twenty-two sets, representing architects of all Allied nationalities. The design submitted by Mr. J. E. Denham, of Shanghai, has been unanimously adopted, but an open portico is to be added to the chief front of his scheme. The work is to be started forthwith.

Sir W. Cameron Gull stated at a meeting of the Berkshire Education Committee that some of the estimates for redecorating schools were seven times as high as the pre-war estimates.

Our Office Table.

Even if they have not the money or the audacity to follow his example, householders who are growing old and grey on the house-painter's "waiting list" will be interested in the story of a Liverpool merchant who solved the house-painting problem in his own way. Having bought a new house at the seaside, he spent several days vainly trying to get the painters to take it in hand. They were all too busy, it appeared, to execute the order immediately; but he was in no mind to wait, and so he avoided delay by purchasing a small house painter's business outright, withdrawing all the workmen from the jobs on which they were engaged and packing them off to his little place by the sea.

Two architects in Pittsburgh, A. B. Harlow and Benno Janssen, have been selected, together with a New York firm, to provide the plans for three of the new bridges to be built across the Allegheny River. The art commission of Pittsburgh has been deeply interested in this matter, and the county commissioners have loyally co-operated and supported the movement inaugurated about a year ago, when Ralph Adams Cram visited Pittsburgh and delivered an address on the subject. The first practical result of the movement was announced the other day. An extraordinary opportunity is now afforded the city of Pittsburgh, and the intelligent action of the county commissioners may be destined to affect architecture in this country to an important degree. "It is," says Mr. Beatty, the President of the City Art Commission, "a distinct recognition of the importance of art in connection with works of public utility, and I doubt not that the other three bridges which are to be built will be designed upon the same high standard of artistic merit."

The Prescott housing scheme seems at present to be pretty much "in the air." Some months ago Mr. Briggs, the Liverpool architect, produced plans for houses at an estimated cost of £900 each. These plans were submitted to the Local Government Board, who returned them, with an intimation that the cost per house must be reduced by some £200. A new set of plans is, therefore, being prepared. The original scheme was to build 100 houses at The Wood, but at the request of the central authority it was decided to proceed only with the building of 20 at once, the remainder to be erected as circumstances admitted.

In 1910, a very fine early 15th century piece of Arras tapestry, thirteen feet square, came up for sale, which had formerly been in the possession of Cardinal Wolsey, and was part of the decoration of Hampton Court Palace. It represented "Charity challenging the seven deadly sins," and three pieces were still in Hampton Court. The Government promised half the purchase money if the Art-Collections Fund would make itself responsible for the remainder, but owing to the war the matter appeared likely to fall through, when Sir Alfred Mond made himself responsible for the balance, a very substantial sum. The tapestry has been secured, and will hang at Hampton Court with the three other pieces.

As a result of representations which have been made to him by the National Federation of Building Trades Operatives under the Wages (Temporary Regulation) Acts, 1918 and 1919, for the extension by order of an agreement fixing substituted rates in the building trade in districts in Kent, Surrey and Sussex, graded D in the agreement, the Minister of Labour intends to seek the advice of the Interim Court of Arbitration in accordance with Section 2, sub-section 3, of the Wages Acts, whether he shall by order direct that the determination or variation effected by the agreement shall be binding on all workmen to whom the prescribed rate or rates in question are applicable and the employers of those workmen. The court will wish to be guided by advice and information from representative bodies of employers and workpeople. The National Board of Conciliation for the building trades will be notified

by letter, but in order that all those who could rightly claim to be interested in this question may be aware of what is being done, this notice is issued. The court propose that the hearing of the case shall take place at 5, Old Palace Yard, London, S.W.1, to-day, at 10.30 a.m., when parties wishing to be represented should arrange for their representatives to be in attendance. As the notice did not reach us in time for our last issue it is possible few of our readers will be able to attend. The Ministry of Labour should send out such notices earlier if the "Court" is to be of any real use.

Some of the architects' specifications for painters' work we have occasionally seen have been a little wide of the mark, to say the least, and all—in these days of changing materials and resultant varied practice—will do well to send to Messrs. Lewis Berger and Sons, Homerton, E.9, for a handy booklet on the subject prepared for them by Mr. Arthur Seymour Jennings, F.I.B.D., the able editor of *The Decorator*, whose experience is unrivalled in all that concerns the art of which our contemporary is the acknowledged exponent. The booklet gives a businesslike set of general clauses, and deals in satisfactory detail with oil-paint finish, enamel finish, flat oil finish, stained work, grained work, and silver finish. We need hardly say that the best directions are apt to fail to secure success unless seconded by the best materials, and that no better guarantee can be had against failure if the use of those made by Messrs. Lewis Berger and Son are insisted on.

The decision of the Court of Arbitration from Westminster last week in an award on the recent claims concerning the shipbuilding and engineering trades, which constituted a test case, has been promulgated.

On the ground that the cost of living was on the decline, as stated in the Board of Trade "Labour Gazette," the Shipbuilding Employers' Federation applied for a reduction of the war bonus to the men concerned by 5s. a week. This was met by a counter-claim, submitted on behalf of the men by the Federation of Engineering and Shipbuilding Trades and the National Federation of General Workers for a 150 per cent. increase for time and piece workers, and the consolidation of war bonus into standard wages. The Court found that the claim for the consolidation of the war bonus was not established, and that in view of the figures published in the "Labour Gazette," showing a decline in the cost of commodities during the last four months, the men's claim for an advance in wages also failed. Dealing with the employers' claim to reduce wages, the Court decided that the claim of the Shipbuilding Employers' Federation that wages should be reduced by 5s. had likewise not been established. The award will have general application in the United Kingdom.

On Monday the Lord Mayor of Liverpool (Colonel John Ritchie) opened the exhibition of cottage construction which the "Daily Post" and the Liverpool Architectural Society are holding next week in Liberty Buildings, School Lane. Mr. Richard Rutherford, chairman of the Liverpool Housing Committee, presided and officials and members of the various local authorities concerned with housing attended. The exhibition will remain open to the public until Saturday, and there will be no charge for admission. In the two large rooms which will be occupied by the exhibition thirty different firms will display their products, all of which have some bearing upon the problem of building a small house cheaply yet soundly. An address on "Housing—Forthcoming Developments in Liverpool," is to be given by the Director of Housing (Mr. F. E. G. Badger) before a meeting of the City Guild, at 5.30 p.m., to-morrow, at the Law Association Rooms, 14, Cook Street.

The committee appointed by Sir Alfred Mond, First Commissioner of Works, of which Sir Aston Webb was chairman, to advise him what alterations, if any, were desirable to be made in the gardens of

Hampton Court Palace, has presented its report. Among the Committee's recommendations are the following:—That the twenty-eight beds on the circumference of the great semi-circle be retained. That the proposed widening of the herbaceous border be not undertaken, and that it be planted almost entirely with herbaceous plants and bulbs. That the beds along the radial walks in the great semi-circle be not restored. That in order to relieve what has been called "the sombre appearance" of the garden, tubs with suitable flowering plants be placed round the oval basin in the centre as was done in William and Mary's time. That the Priory Garden should be renovated. (This is the garden passed through on the way to the Great Vine). That considerable alterations be made to the Tudor Pond Garden. That the centre and first plateau be rebuilt to the original level as shown by the old retaining walls, and that the grass on the first plateau be increased in width. That the general lines of the garden be retained, and that the grass in the fountain be removed. The Committee also think that plants in tubs on the middle plateau would add to the interest and beauty of the garden, and that the condition of the garden should revert as far as possible to the original intention.

By far the best and most reliable of any of the smaller publications we have seen is the shilling guide to "The Income-Tax," the 1919 edition of which is just published by *The Financial Times* 72, Coleman-street, E.C.2. From its pages every victim can learn what he has to pay, and how to obtain the deductions to which he is entitled. The book is written on popular lines, and the comments on the Budget are fair and luminous. It is not the compiler's fault that it does not include Mr. Chamberlain's latest concessions, and it is a pity he did not make them when he introduced the Budget; as now, necessarily all helps of the sort to the tax-payer will not include the concessions.

Lord Forteviot, at a meeting of the Perth District Committee, on Wednesday in last week, submitted figures which gave an indication of the great increase in the cost of building. He mentioned in connection with the Bridge of Tain Housing-Scheme that in June of last year the average cost for the proposed working-class houses was £494, and the price now for three-roomed houses was £717, and for four rooms £877. No working man occupying a three-roomed house could pay a rent of £40, and at a rental of £15 there would be a deficiency of £25 on the smaller houses, and of £30 on the larger. The scheme, he said, would be an object-lesson to them. On his motion it was decided to submit plans to the Scottish Local Government Board for approval, and instructions were given to the clerk to arrange for the necessary loans at the lowest possible rate of interest.

The famous asphalt lake in Trinidad is the subject of an article in a recent issue of one of the United States commerce reports. The article records some recent borings made in the lake which have reached a depth of 150 ft., the lowest yet obtained. The asphalt was found to be of the same uniform character as in borings higher up and in other parts of the lake. After completion, the deepest boring was observed to have shifted at the surface 25 ft. in six weeks, and a survey showed the movement to exist as deep as 100 ft., and there was a suggestion that the direction was reversed at a depth of between 25 ft. and 50 ft. The movement of the asphalt seems to be similar in many respects to the ascending and descending currents in a kettle of boiling water. At the centre of the pitch lake there is an area of viscous asphalt, approximately 50 ft. wide. Scattered about the surface of the lake are islands often 300 ft. long, on which trees are growing. When removed these are found to consist principally of a thin layer of decayed vegetation and soil seldom extending deeper than 3 ft.

A building syndicate is said to be interested in the possibility of securing Ken Wood, Hampstead, as a site for building operations. It adjoins Hampstead Heath and Golders Hill. The mansion, which goes

with the estate, was reconstructed in 1763, under the superintendence of the Adams brothers. The present owner is Lord Mansfield, in whose family the estate has been since the first Earl of Mansfield, afterwards Lord Chief Justice of England, bought it, and placed it in the hands of the Adams for them to beautify. Latterly it has been let, and one of the recent occupants was the Grand Duke Michael of Russia. The house is now in the occupancy of Mrs. W. B. Leeds, widow of the American "Tin-plate king." The price asked for the estate is £550,000. This is the figure which was quoted to the Commons Preservation Society and the Metropolitan Public Gardens Association when they approached Lord Mansfield's agent just before the war. The estate is 221 acres in extent.

At a meeting of the Special Committee of Leith Town Council on housing last week, Mr. George Simpson, the burgh architect, submitted plans for the building of houses on the sites selected by the Town Council, but which have not yet received the approval of the Scottish Local Government Board. The suggestions include buildings at Hawkhill and Lochend, Claremont Park, Ferry Road, and Trinity, the houses being three-story tenements, cottages, and villa-flats. A remit was made to a sub-committee to consider what schemes should be adopted. Among the designs submitted are those of semi-detached cottage villas, each containing five rooms, scullery, etc.; a block of four continuous cottage villas, similar to the above except that the two centre houses have a room less; a block of six continuous cottage villas of the same type; a block of flatted villas containing four houses of four rooms each; and a three-story corner tenement, containing two main-door houses on the ground floor, each having four rooms, and the two houses on the two upper floors, with similar accommodation. The designs also show several blocks of continuous tenements providing houses of three rooms each. In connection with one of the schemes, central heating is suggested. It is proposed that the exterior walls should be built of hollow brickwork or stone. The estimated cost per house—not including divisional fences, laying out of ground, purchase price of sites, or formation of roads, ranges from £400 for houses with a floor area of 55 square yards to £890 for houses with a floor area of 123 yards.

The "Daily Mail" Ideal Home Exhibition will be held at Olympia from February 4 to February 25, 1920, and will be extended to three weeks instead of the usual two. Workers' Ideal Cottages, according to the designs which won the £500 prizes in the recent "Daily Mail" Architects' competition will be shown. Amongst many other features of interest, great prominence on this occasion will be given to labour-saving in the home. An effort is to be made to realise a home in which domestic work is reduced to a minimum. Both the public and architects will be invited to co-operate in this effort at an early date. For the benefit of housing committees of local authorities, public utility societies, borough engineers and others concerned in the problem of housing the workers, three books of the best designs entered in the recent "Daily Mail" Ideal (Workers') Homes Architects' Competition will be published on the 25th instant. The books will contain 50 plans for houses suitable for the Northern Industrial, Midland Industrial and Southern and Midland Counties Rural Areas respectively. In addition they will contain the names and addresses of all the architects whose designs attained a sufficient standard of merit to warrant their inclusion, and also the exact locality for which these "mentioned" architects' plans were suitable. The books will be published at 5s. each net, and may be obtained from all booksellers or direct from the Book Publisher, "Daily Mail," Carmelite House, London, E.C.4, post free 5s. 6d.

New housing schemes submitted to the Ministry by Local Authorities and Public Utility Societies during the week ending July 12 numbered 326, and the schemes comprise an area of over 3,000 acres—land suffi-

cient for about 30,000 houses. Outstanding among them are schemes from Newcastle and Birmingham of 466 acres and 429 acres respectively. The total number of schemes submitted to the Ministry is now 3,278, as compared with 422 early in March. They concern land sufficient for the erection of some 370,000 houses. More than half the urban authorities, but less than half the rural authorities of the country, have submitted housing proposals. House plans approved by the Ministry during the week numbered 1,844 (houses), a greater number than in any previous week.

Sir Aston Webb, President of the Royal Academy, is to open the Autumn Exhibition on September 20. In his honour a dinner is to be held the previous evening. For this annual exhibition the receiving days are to be August 18 to 20. Shortly afterwards the Hanging Committee commence their duties, and it is of interest to note that the professional hangers will be Mr. Anning Bell, A.R.A., who was formerly a master of the Art School of the University, and Mr. A. E. Brockbank, President of the Liverpool Academy.

Mr. William Woodward writes cogently to the *Times* of yesterday as follows:—"Mr. Frank J. Privett (the Vice-Chairman of the Portsmouth Labour Employment Committee and Chamber of Commerce) informs us in his letter to the *Times* that the Minister of Housing, Dr. Addison, recently stated that 'it may be necessary to licence all building work in the near future, in order that housing work may be proceeded with.' If Dr. Addison carries out his suggestion, the effect upon the building trade—and many others arising out of it—will be disastrous. Mr. Privett is right in stating that the building trade has suffered, owing to war restrictions, more than any other industry. It is well known that no one building job was allowed to be carried out by private enterprise during the war if the cost exceeded £500—and we uncomplainingly tolerated that because of the war. Now, however, circumstances are entirely altered, and if building in the near future is to be restricted to housing for the working classes, and to such restrictions as those mentioned by Mr. Privett, it must encourage the fear that private enterprise is to be cast to the winds and a stop placed on new commercial and other buildings, thousands of which are now waiting to be commenced; and not only so, but new Government Departments will be created the effect of which upon real practical work and upon the temper of the nation is now pretty well understood. I trust, Sir, that Dr. Addison will be able to assure us that Mr. Privett's prognostications are not likely to be realised."

CHIPS.

The East Kerrier Rural District Council has passed plans for a women's institute at Flushing.

The ratepayers have decided that the Knaresborough war memorial take the form of a town hall and public reading-room.

Mr. Edwin Evans Cronk, Redcliffe Square, S.W., and King Street, St. James's, architect and surveyor, has left £35,946.

Sir T. Vansittart Bowater, a former Lord Mayor, has been elected deputy-chairman of the London Court of Arbitration.

The Eston Urban District Council has decided to build a public abattoir in Normanby Road at a cost of about £10,000.

Mr. S. Harrison, architect, Middlesbrough, has been appointed architect for Cannock Urban District Council's housing scheme.

The Okehampton Rural District Council have appointed Mr. J. A. Lucas, of Exeter, architect, to carry out all working-class dwellings.

It has been decided to build an institute in connection with Carr Road Wesleyan Church, Nelson, at a cost of between £4,000 and £5,000.

At a recent public meeting it was resolved that an institute for the use of discharged soldiers and young people be erected as part of the new Town Hall Buildings at Colwyn Bay at an estimated cost of £9,000.

Plans have been passed for the enlargement of the Gawber Road Working Men's Club and Institute, Barnsley. Messrs. R. and W. Dixon, of Eastgate, are the architects. Also for extensions and alterations to the Kingstone United Working Men's Club, Keresforth Hill Road.

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TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BIRKENHEAD.—For erection and completion of houses in connection with the Gilbrook and Rock Ferry Housing Schemes, for the Corporation. Tenders recommended for acceptance:—

Parkinson, J., and Sons, Blackpool, Ltd., all type A houses, Gilbrook (48 in number), £36,303; Birkenhead House Construction Co., Birkenhead, all type B houses, Gilbrook (44), £39,000; Johnston, Jones, and Co., Liverpool, one pair of type B1 houses, Rock Ferry (2), £1,573 6s. 8d.; Costain, R., and Sons, Liverpool, 15 pairs of type B1 houses, Rock Ferry (30), £28,860; Parkinson, J., and Sons (Blackpool), Ltd., all type B2 houses, Rock Ferry (20), £19,260.

CHELTEMHAM.—For repairs at the workhouse, for the guardians:—

Drew, W., Golden Valley ..	£639 0 0
Eager, E., and Co. ..	477 5 0
Wilson, A. ..	390 5 0

*Accepted.

FOLESHILL.—For the construction of one 66 ft. diameter circular bacteria bed at the Folehill Sewage Works, Henley Mill, Folehill, for the Folehill Rural District Council. A. E. Newey, engineer and surveyor:—

Kelley and Son, Folehill ..	£1,922 0 0
Trentham, G. P., Ltd., Birmingham ..	1,717 9 0
Munden and Shilton, Coventry ..	1,586 16 0
Goode, H., and Son, Coventry ..	1,549 0 0

*Accepted.

HAYES, MIDDLESEX.—For 20 houses at Veading, in the Urban District of Hayes, for the Hayes Urban District Council. D. C. Fidler, architect and surveyor:—

Lawrence, W., and Sons, 19, Finsbury Square ..	£17,654 0 0
Leighfield, W., Isleworth ..	15,973 18 6
Byford and Pickrill, Wealdstone ..	15,902 17 0
Kearley, C. F., 4, Great Marlborough Street ..	15,795 0 0
Collinson and Co., Teddington ..	15,635 0 0
Hughes, R. W., 13, St. Dunstan's Road, W.6 ..	14,941 0 0
Farrow, H., Brixton ..	14,737 6 7
Hanson, A. and B., Southall ..	14,647 14 10
Jackson, C., 7, Sherborne Gardens, Ealing ..	14,371 5 0
Somerville, D. G., and Co., 120, Victoria Street ..	14,220 0 0
Tarrant, W. G., and Sons, Byfleet ..	14,060 0 0
Pattinson and Sons, 50, Parhamment Street ..	13,991 0 0
Thompson, G. C., 20, Queen Victoria Street ..	13,990 18 11
Higgs, T., Northampton ..	13,900 0 0
Garden Cities Housing Co., Great Marlborough Road ..	13,375 0 0
Davey, W. E., Southend-on-Sea ..	12,980 0 0

*Accepted.

LIANTEGLOS-BY-FOWEY.—For a pair of semi-detached cottages at Treverder, Llanteglos-by-Fowey, for Messrs. Searle and Kelley. Mr. C. W. Parkes Lees, Fowey, architect:—

F. Isbell, Fowey ..	£1,030 0 0
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Accepted.

MORPETH.—For new bank premises, Market Place, for Messrs. Barclay's Bank, Ltd. A. Stockwell,

M.S.A., 11, Pilgrim Street, Newcastle-upon-Tyne, architect:—

Hall, R. C., Morpeth ..	£13,156 0 0
Lowry, I. and W., Newcastle ..	10,475 0 0
Wilson, J., Morpeth ..	10,473 0 0
Henderson, E., and Son, Ponteland ..	10,347 0 0
Stephen Easton, Ltd., Newcastle ..	10,300 0 0

*Accepted.

ROTHERHAM.—For the construction of a reinforced concrete reservoir to hold 200,000 gallons and a water tower to hold 20,000 gallons under the system of the British Reinforced Concrete Engineering Co., Ltd., for the Rotherham Rural District Council. C. O. Rawstron, engineer:—

Jones and Sons, 64, Victoria Street, Westminster, S.W.1, reservoir, £3,559 19s. 10d., water tower £1,006 15s. 7d. (accepted).

SWINDON.—For (a) rebuilding the King's Head Inn, Fleet Street, for Usher's Wiltshire Brewery, Ltd.; (b) alterations, etc., at the White House Inn, Station Road, for Usher's Wiltshire Brewery, Ltd.; (c) repairs, painting, and decorative work at the Riding School, for the Wilts County Territorial Association. Quantities by the architects, Drew and Son, Regent Circus, Swindon:—

(a) Beard, E. W., £4,260; Pope Bros., £4,109; Leighfield, R. J., £4,047; Colborne, A. J., Swindon, £3,649 (accepted). (b) Leighfield, R. J., £2,417; Beard, E. W., £2,305 17s. 6d.; Pope Bros., £2,207; Tydenman Bros., Swindon, £2,188 16s. 9d. (accepted). (c) Tydenman Bros., £1,012; Spackman, H. and C., £952; Beard, E. W., £874 4s.; Colborne, A. J., Swindon, £828 10s. (accepted).

TREDEGAR.—For a garage at Tredegar, Mon., for Messrs. Morgan and Son, Tredegar. H. Waters, M.S.A., Brynmawr and Beaufort, architect:—

In reinforced concrete: Jones, W., and Sons, Westminster, £2,300; Davies, D., and Son, Cardiff, £1,030; Fulcher, P., Cheltenham, £990; Thomas, D., and Co., Cardiff, £800. Ordinary brick construction: Newcombe, O., Tredegar, £947; Dickenson, T., Tredegar, £720 (accepted). Architects' estimate, £790.

WARMINSTER.—For eight cottages at Chitterne, for the rural district council. C. C. Hancock, High Street, Warminster, surveyor:—

Butcher and Son, Warminster ..	£7,649 0 0
Tarrant and Son, Byfleet ..	6,868 0 0

*Accepted, subject to approval of Local Government Board.

WELWYN.—For six semi-detached cottages at London Road, Welwyn; six at Woolmer Green; and eight at Station Road, Digsell, for the Welwyn Rural District Council. T. E. Moore, surveyor:—

Willmott, J., and Sons, Hitchin, six cottages at Welwyn, £4,201 18s. 10d.; six at Woolmer Green, £3,724 15s. 3d.; eight at Digsell, £5,486 16s. 1d. (accepted, subject to sanction of the Local Government Board).

WHITEHAVEN.—For proposed housing scheme for the southern district, for the rural district council:—

Laing, J., and Son, Carlisle ..	£132,322 0 0
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Recommended for acceptance.

With the approval of the King, the Lord Mayor (Sir Horace Marshall) has commissioned Mr. F. O. Salisbury to paint a panel to be placed in the Royal Exchange depicting the historic service on the steps of St. Paul's Cathedral on Peace Thanksgiving Sunday.

The total grants already made and promised to highway authorities in connection with the road and bridge programme for 1919-20 amount to £8,610,009, according to a statement by Mr. Baldwin in last Wednesday's Parliamentary Papers. Of this sum £2,219,194 has been made and promised to highway authorities in Greater London, including the counties of Hertfordshire, Surrey, Kent, and Essex, part of whose area lies without Greater London.

LIST OF TENDERS OPEN.**COMPETITIONS.**

Aug. 15.—For designs for War Memorial for the Leamington Spa.—For the War Memorial Committee. Premiums offered of £100, £50, and £25, for first three designs. Assessor, Mr. H. V. Ashley, P.R.I.B.A., 14, Gray's Inn Square, W.C. Designs to, and particulars of, Leo Rawlinson, Town Clerk, Leamington Spa. See advt.

Aug. 22.—Premium of £50 offered for the best lay-out of 36 acres for cottages by Bromborough U.D.C., the selected plans to become the property of the Council. Mr. Badger, Director of Housing for Liverpool, adjudicator. Plan of site obtainable on receipt of 10s. deposit. Designs to W. A. Weston, Clerk to the Council, Bromborough. See advt.

BUILDINGS.

July 26—Aug. 13.—For 12 houses at Chiddingfold, and 12 on a site at Shalford, for the parish of St. Martha.—For the Hambledon Rural District Council.—E. L. Lunn, L.R.I.B.A., 36, High Street, Guildford, architect. Tenders to H. A. Merriman, clerk, 138, High Street, Guildford.

July 28.—Building and painting at Albany House, Old Windsor.—For the guardians of the Windsor Union.—Edgington and Spink, 52, High Street, Windsor, architects. Tenders to J. E. Gale, clerk to the guardians, 3, Sheet Street, Windsor.

July 28.—For all kinds of work required in the erection of a new Princess Picture Palace in the Market Place, Birstall. W. Hancock and Son, architects, Branch Road, Batley, to whom the tenders must be delivered.

Aug. 9.—Repairs, etc., at the Redhill institution and children's home near Edgware.—For the Guardians of Hendon Union.—Tenders to F. J. Seabrook, clerk to the guardians, Union Offices, Edgware.

Aug. 11.—Tenders are invited by the Commissioners of H.M. Works for the construction of the foundations of the General Post Office, East, London. Drawings, specifications, and a copy of the conditions and form of contract may be seen on application. Tenders to be addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.

The Hunstanton Urban District Council has under consideration the provision of public swimming baths.

A statement issued by the Corporation of London shows that the gross rateable value of the City is £6,931,710.

"One of the best workmen that ever walked," was an employer's description at a City inquest of William George, aged 44, a builder's labourer, of Worcester Park, Surrey, who met with a fatal accident.

Mr. Justice Sargant held last week that an agreement for the exclusive use of the great hall in the Cannon Street Hotel for a dance was an agreement for an interest in land within the Statute of Frauds, and should, therefore, have been in writing. (Franois v. South-Eastern Railway Company.)

Mr. William Shepherd, of Alde House, Clapham Park, and Guildenburst Manor, Sussex, builder and contractor, of Tower Bridge Road, Bermondsey, has left £600,316. Subject to donations of £2,000 each to the Builders' Benevolent Society and the Wheelwrights' Company of the City of London, for pensions for four poor persons, and a few other private bequests, he has left the residue of his fortune for such hospitals as he may by writing direct or the executors select.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.2

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Extensions, selected design. East wing and	
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Alfred Saxon Snell, F.R.I.B.A., Architect.	

Currente Calamo.

The London County Council is to be heartily congratulated on its selection of Mr. George Topham Forrest, F.R.I.B.A., F.G.S., as Superintending Architect. No better man, or one with wider experience, could have been found to carry on the good work Mr. W. E. Riley shortly relinquishes, for whose successor we wish as good a record as that made by the man he follows. Mr. Forrest takes up his work with many advantages; in the prime of life, and with a varied and extensive experience. Now in his forty-eighth year, he was born in Aberdeen, and educated at the Grammar School and University of that City. He came to London in 1894, and entered the office of the late Mr. J. MacVicar Anderson, with whom he remained for four years. He then took a position in the office of the City Engineer of Leeds, and has since completed well-nigh twenty years' public work, including six years in the West Riding of Yorkshire, eight years as County Education Architect for Northumberland, and five and a half years as County Architect of Essex. For the last-mentioned post he was selected out of 156 applicants, and his work there since has been of a most successful character, including the preparation of the great housing scheme adopted by the Essex County Council on February 15 last, which is to cost three and a half millions, and is described by us in our issue of February 26 last, and embraces not merely housing, but the reclamation of derelict land, the provision of light railway wharves, drainage and maintenance of sea walls, and agricultural education. Essex is the first county in which such an important and comprehensive scheme has been adopted, and probably acquaintance with its details determined Dr. Addison to appoint Mr. Forrest a member of the Advisory Committee selected for the supply and control of materials. There were forty-four applications for the appointment of Superintending Architect to the London County Council, and three names were submitted by the General Purposes Committee to the Council, including Mr. Forrest, Mr. W. R. Davidge, A.R.I.B.A., F.S.I., and Mr. D. N. Dyke, A.R.I.B.A.

We should like to have been able to spare space for the whole of the very admirable address delivered last Thursday by Mr. John Wyndham Beynon, the deputy chairman of the Ebbw Vale Steel, Iron, and Coal Co., at its fifty-second ordinary general meeting. However, we see it is to be published in pamphlet form, and possibly others than shareholders may be able to get a copy on application. They will find it well worth perusal. Here is a great organisation working the original ironworks acquired from the Earl of Pembroke in 1674, which is in every way a model of successful private enterprise. It pays steadily but moderate dividends, makes no excess profits, distributes large sums in helping its poorer neighbours, and is the only self-contained iron and steel works in Great Britain owning its own native limestone quarries and dolomite quarries; it will produce all the coal it requires and all the coke and pig-iron in order to make the finished output of steel. No place in this country will be better situated than it is if the Government and people in general will leave it alone. Its one difficulty is with Labour, and there has been a strike on at the works for some time by the skilled workers, who are already paid a higher rate, with one exception, than any paid in the whole of the United Kingdom, but who are so blind to their own interests as to leave the town of Ebbw Vale and work during the strike in other towns for lower wages than they would receive in Ebbw Vale. This, too, in spite of the fact that when quite recently the directors invited a very important trade union to nominate a director to sit upon the board with them, so that he might get complete insight into the whole conditions of the company's business, the offer was declined.

Mr. Beynon's pithy summary of the ignorance of the present industrial agitators and their dupes is, unfortunately, too true. He said:—"I cannot conceive that this country, which has got a great reputation for common sense and for a continuity of policy, will be quite so mad as to imagine that the State can manage an industry. The State would only be a capitalist in another sense, but it is no use misleading ourselves by thinking that the present turmoil is a backwash of the war or is merely a passing phase. A certain number of the trade union leaders

openly say that Labour is no longer going to work for private capitalists. That has been their policy, and because they have been able during the war—not only colliers, but others—to go to Government Departments, make extravagant claims, and get them, they have been able to bring their fatuous policy to become the fashion for the moment. Although some of these men have been to Ruskin College, they have not learned the first principles of economics. The basis of it is that they make a mistake as to what has developed industry to the extent it has been developed. They imagine that population can make industry, whereas the very reverse is the fact: it is industry that makes population, and no Government Department yet has been able to conduct an industry upon the lines developed by private capital. No Government could have done what this company has done during the last ten or fifteen years. They have not the vision; they have not anybody who can give a quick decision; they do not keep anybody on one job long enough for him to be able to learn it. Until this country comes to its senses, and until some important man—I suggest the Prime Minister—says to Labour, "Thus far shalt thou go, and no further; get on with your work," we shall have turmoil. That is certain, and till the country realises it and ends the meddle and muddle policy of our present oligarchs, the country will drift on to bankruptcy and anarchy.

The Lords made one or two further desirable improvements in the Housing Bill, particularly one providing financial facilities to members of building societies; but when the Bill got back to the Commons Dr. Addison moved to disagree with the Lords' amendment, and said it was an ingenious scheme, but the Government could not subsidise private individuals. He regretted that he could not lay before the House under this Bill any scheme for assisting building societies. Dr. Addison's talk about "subsidies" was mere camouflage. The "private individual" could and would have repaid the whole of the money; and, as in the past, his help in remedying the present house-shortage would have been invaluable. Dr. Addison also moved to disagree with the Lords' amendment striking out clause 41, which gives power to the Local Government Board to require local authorities to prepare and submit town-

planning schemes. He said that if a few years ago there had been a clause of this kind in existence a good part of the Bill under discussion would have been unnecessary. He announced that it was his intention to modify the clause. The Speaker pointed out that the proper course was to agree with the striking out of the clause, and to reinsert in its place the new Government clause. When the Bill got back again to the Lords last Thursday the House resolved to insist upon a provision giving owners the right to close houses for human habitation, but the clause embodying the provision was amended by the insertion of the stipulation that houses so closed should not be capable, without reconstruction, of being rendered fit for human habitation.

What is the "standard rent" of an unfurnished flat within the meaning of the Increase of Rent Act, 1915? This question is giving some trouble to the courts, for it would seem that, in the hasty drafting of this Statute, flats were forgotten. In the case of "The Westminster and General Properties and Investment Company, Ltd., and A. C. Biggs v. Simmons" that was the important point raised. A flat at West Hampstead had been let on a long lease in 1912 at a yearly rent of £80, including rates and taxes. The lessee sublet it to defendant for three years and half a quarter from May 9, 1916, at £85, also inclusive. Then he surrendered the lease to the plaintiff company, subject to the current sublease, which expired on June 22, 1919. Meanwhile the plaintiff company had let the premises to the second plaintiff at £120, inclusive, and this action was brought by both these parties against the defendant, who refused to quit. She pleaded Acts of 1915 and 1919, and the true issue was whether the "standard rent" was under or over £70? The clause provides that the rent being paid on August 3, 1914, shall be the statutory standard. Here the lease fixed that rent at £80, but this sum also included rates and taxes. The plaintiffs argued that this figure was final and conclusive as the rent. Defendant urged that the real rent received was £80 minus rates and taxes, which would bring it below £70 and within the Act. Mr. Justice Bray held that £80 was the standard rent, whether the landlord or tenant paid rates and taxes, so it was outside the statute, and he gave judgment for plaintiffs, possession by September 1, the mesne profits to be reckoned on the rent of £120, at which it had been let, and the costs. It was a bad day for the defendant, but she may yet try her luck in the Court of Appeal.

The most striking fact disclosed in an important report presented by the Birmingham Housing Committee to the City Council yesterday is that the houses in the first instalment of the building programme whose erection has been sanctioned will cost not £800 each, as was estimated, but £943 each. The committee reminded the council they were authorised to proceed with the erection of 95 houses, being 50 in Belcher's Lane, 53 in Cotterill's Lane and 12 in Yardley Road, and the Finance Committee were instructed to

apply for sanction to borrow the sum of £76,000, estimated to be required to cover the cost. It was afterwards found that in consequence of certain amendments by the Housing Commissioner in the lay-out, the number of houses that could be erected would have to be reduced from 50 to 28 in Belcher's Lane and from 53 to 50 in Cotterill's Lane, making a total of 90 instead of 95 as authorised. Tenders were invited for the erection of the 90 houses, and subject to the approval of the Ministry of Health, the following (amounting to £81,344) have been accepted:—

	Houses.	£
Cotterill's Lane, H. Dare & Sons	50 ..	43,788
Yardley Road, H. Dare and Sons..	12 ..	10,560
Belcher's Lane, B. Whitehouse and Sons	28 ..	26,996
Total.....	90 ..	81,344

Consequently it will be necessary for the Council to amend the authority to proceed with the erection of the houses so as to provide for the erection of 90 instead of 95, and also to amend the instructions to the Finance Committee so as to provide that the amount to be borrowed shall be £81,344 instead of £76,000. The tender for Linden Road scheme amounted to £80,000 as against an estimate of £64,800. Not only has it been very difficult to obtain complete tenders, but the prices have averaged over the whole schemes about £943 per house, as against an estimate of £800.

There has just been defeated in New Jersey, by one vote, a Bill providing for the licensing of builders. In Milwaukee, during February, a Bill giving the city power to license building contractors was introduced. Agitation for licensing of builders is nothing new, but the close call for the measure in New Jersey shows that it may be expected to pass in some State in the near future. Will this be a good thing for the trade in general? Will it tend to concentrate work in the hands of the big contractors, eliminating the small man? The answer to these questions depends largely, as pointed out by the *American Architect*, on the manner in which the Bill is finally drafted before enactment. Undoubtedly, it thinks, the majority of capable American contractors would welcome any law tending to prevent irresponsible bids and the cut-throat competition indulged in by the contractor who is not enough of a business man to know his costs. And even more important would be the elimination of the incompetent contractor who gives a black-eye to good materials and contractors in general. Why should not the public be protected from the contractor who cannot build properly, who, if he makes a mistake, must either retrench by inferior work or become insolvent, and whose work affords him less than a day's wages on contracts where a capable builder, wise in labour-saving methods, would make a fair profit? Should not the public be protected from such inefficient contractors? The licensing of architects is doing much in the United States to raise the standard of that profession in a very practical way. No longer in licensed States can the owner of a tee-square and a book of the Orders

set himself up as fit to take the public's money. Such laws have proved their worth, and laws licensing builders, our American contemporary thinks, should be along the same lines.

Mr. George Gordon Sampson, some of whose pre-war publications we and our readers have read with pleasure and profit, has just issued another readable little volume entitled "Causes and Consequences" (London: Simpkin, Marshall, Hamilton, Kent and Co., 2s. 6d. net), in which he deals in a fashion that probably will better enlighten the ordinary man or woman than the recondite researches of the pundits and philosophers in regard to the troubles and trials of the times, and their remedies. Mr. Sampson frankly recognises that, for good or evil, the future will henceforth be in the hands of Labour—we should rather have said ourselves in the hands of those who can cozen or coerce it—and his object is to make "causes and consequences" clearer to the workers than they seem to be just now. We do not find ourself in agreement with quite all his conclusions, but there can be no two opinions about the candour and moderation with which he states them. Not a few we very heartily endorse. That the continued influx into the towns has been one of the greatest curses of our time, that if we cannot help ourselves and must work in the cities we should live in the fields, and that too large estates are undesirable, all men with brains in their heads, and not chewed biscuit, know. That the worst form of all Government is an Autocracy disguised as a Democracy some of us are only just finding out, but it is perhaps the truest of all Mr. Sampson's conclusions.

Most of our readers are as well aware as we of the excellence and accuracy of the Surveying and Drawing instruments made by the leading firm of C. Baker, 244, High Holborn, W.C., but some of them may not remember that it issues quarterly a "Classified List of Second-Hand Instruments," the July issue of which is now ready and can be had on application. It will pay many to get it, especially some of us whose kit has suffered in the rough times abroad or from desuetude at home. The firm's large connection of buyers and sellers brings into their hands from time to time instruments which are only "second-hand" by reason of some slight damage or hard wear of parts. These go promptly into the workshops, where they are overhauled and whence they emerge as good as new, and not infrequently better, and are then offered at prices which the none too rich of us just now will very gratefully appreciate. The present list includes some quite tempting bargains. We may also add that the firm is quite as ready to purchase apparatus of all descriptions, when no longer needed, to value it, sell on commission, or dispose of it by auction, and can be relied on to do the best for their clients.

The subject was divinity, and the class was being instructed in the life of Joseph.

"What position did Joseph occupy in Egypt?" asked the teacher. "Food Controller!" was the reply. The results, as described in Gen. xlvii, 22, 23, and 24, seem likely to follow here now the Government has begun to "nationalise" everything!

UNITY, OR ABSORPTION.

The proposals embodied in the letter we printed in our issue of July 16, and on which we commented last week, are evidently attracting attention, and it is, perhaps encouraging, that, apparently independently thereof, the evils resultant from the present condition of the senior representative body of the profession are being very frankly pointed out by some of its members, and suggestions offered for its reconstruction.

In the last issue of the R.I.B.A. *Journal*, there are two letters which deserve notice. The first is from Mr. Richard M. F. Huddart, A.R.I.B.A., who writes as follows:—

Before the war I always regarded the R.I.B.A. as the *dog-in* of architectural societies and as giving light and leading to the whole architectural profession, but when I review the achievements of the Institute after three years' absence in France I must confess to being disappointed. In spite of the magnificent work performed by the president and some members of the Council and also by the permanent staff, the results are unsatisfactory. For example, the Council and the various committees have been ill attended, to the detriment of their respective functions.

Secondly, the finances of the Institute are not in a flourishing condition. The annual subscriptions have been allowed to get nearly £4,000 in arrears. This has necessitated cheeseparing economies, which have appreciably diminished the prestige of the Institute.

Thirdly, the efforts made by the Council, in order to safeguard the interests of members who have been serving abroad, have not solved the problem of those who have now come back only to find starvation staring them in the face. At the same time, the distribution of the work in connection with the National Housing Scheme, which might have proved a solution, has unfairly favoured the man already on the spot.

Fourthly, the promise made to students, whose studies have been interfered with by the war has since been qualified.

My purpose, however, is not to frame an indictment against the Institute, but to try and point out the reasons for these shortcomings and suggest a remedy.

In the first place, it is useless for the Institute to initiate any strong constructive policy until practically the whole of the architectural profession are enrolled as members; and, as have been proved by previous attempts, half measures in this respect are worse than useless. It is therefore necessary to immediately elect as Associates (provided, of course, they consent to join) all Licentiates, the whole of the Society of Architects, the bulk of the allied societies and the Architectural Association. Students, of course, would have to pass the examinations prior to election unless their studies have been seriously interfered with by serving in the war.

The allied societies would continue to exist as local branches of the Institute and, to avoid paying a double subscription, the subscription to the Institute might be commuted to the extent of the amount members pay to the local society.

The idea that an Associate by examination is a better architect, or is in any way benefited by the examination, is a complete myth under present circumstances. Such an examination is meaningless while there are so many eminent architects who have never passed it, and it can only become a criterion of professional ability when no one can practise architecture without the Institute's diploma.

The big thing, therefore, is to consolidate the profession, much as the medical profession is consolidated, so that none but properly qualified architects can practise architecture.

When all architects are enrolled the Institute will have an adequate income and will be able to provide itself with a proper building.

the exercise of the more technical functions of the Institute, but also a place where members can meet informally and discuss in ease and comfort the current ideas of the day.

The social side of the Institute has been entirely neglected, to the great loss of the profession, and to meet this there should be a club attached to the Institute, carrying an additional subscription, with reading-rooms, writing-rooms, dining-rooms, bedrooms for country members, etc. The library should have a smoking-room attached with comfortable chairs.

As regards the technical side of the Institute's work, the committees should be real committees and not only on paper, and members elected should be paid a fee for each attendance.

The Bill for closing the profession should be proceeded with as soon as all practising architects are enrolled.

Bureaux should be established to deal with the question of finding employment for architects abroad, for assisting architects who are short of work or in financial difficulties, for arranging partnerships for the appointment of architects to public offices, etc.

These and many other reforms are to-day pressing needs if architecture is to remain a profession. I appeal, therefore, to all architects, at whatever sacrifice to themselves, to sink all their private objections, and work for the unity of the profession in one Institute.

What finer War Memorial could there be than this!

No one will dispute the goodwill manifested throughout Mr. Huddart's letter, or the encouraging fact that his proposals are in the main those of one convinced that it is not the least of the obligations of the member of any association, while loyally continuing his membership thereof, to move within it or outside of it for reforms of the necessity of which he is convinced. That being so, it is, perhaps, not easy to realise that the members of the Society of Architects would consent to join the R.I.B.A., individually if elected as Associates. It is also doubtful, bearing the recent past in mind, if Mr. Huddart's brother Associates of the R.I.B.A. would permit the addition of the Licentiates to their ranks. Both propositions will doubtless be discussed, if the suggested conference of councils take place, and it is premature at present to say more than that it is probable the Society of Architects will require some very substantial guarantee that if any satisfactory solution is reached it will not be torn to pieces by aggrieved members of the R.I.B.A. if ever they are asked to adopt it in general meeting.

So far, at any rate, it is encouraging to know that the Council of the R.I.B.A. has unanimously passed a resolution: "To make a further effort to unify the profession." We shall all heartily hope that the effort may sufficiently commend itself to all concerned to co-operate in the task which is essentially as imperative as it is desirable.

The second letter, by Mr. Ernest J. Dixon, A.R.I.B.A., though it does not deal directly with the question of reconstruction with a view to unity, has yet a more or less important bearing thereon. Mr. Dixon is perhaps not surprisingly, rather pessimistic about the present prospects of the individual architect:—

The insistency with which our future and that of the art we follow is being questioned should lead us to consider our past, the society in which we live and our place within it. The war has only accelerated the pace at which the various interests which held us in their grip in pre-war days are now threatening to modify our position in many respects and annihilate it in others. Human conditions being always in a state of flux, advantages are secured by certain groups over others in proportion to their economic importance and numerical strength. The architect has always been considered a luxury—a fact which is borne out by a recent statement at the Institute to the effect that 95 per cent. of the housing of the poorer classes has not been the work of architects. The reason why architects cannot enforce a doubling of their present fees is to be found in the fact that they lack

economic importance and are numerically small in number. We lack economic importance not because our work is such, but because our claims are undermined by the engineer, the estate agent and the speculative builder, favoured, of course, by the insufficient appreciation of good design by the public. Whilst clients may have recourse to others, they may ask the question, "Why can't you reduce your fees?"—a request which is not demanded of the solicitor, the doctor, the miner or the bricklayer. Had we been fortunate enough to reverse the picture, we should have the public talking of the tyranny of architects in exactly the same tone and for very similar reasons to those employed by Mr. Woodward in speaking of trade unions. We are a small body, and our outlook is very limited in regard to our business possibilities. We lack collective interest and our vision is split in twain by technique and etiquette instead of uniting a workable compromise between them. Not many years ago an office dealt in all the departments of practical building; then the inevitable specialisation common to all enterprise began to make itself felt. The quantity surveyor extended his sphere, the surveyor pure and simple became stronger, the specialists in wood, plaster and iron made themselves too evident, and the architect was left with the management of these contributors, who often chased him from a province he had considered peculiarly his own—Design. Side by side with this disintegration of private practice, a synthesis was growing in the enlarged scope of the work done by corporations, councils, and Government Departments, and the administration of building bye-laws, which became more and more stringent on account of the thoughtlessness and self-interest of the builders entering largely into the question. These were steadily absorbing the younger blood, which found conditions more satisfactory in point of permanence, salary and opportunities. In addition, many furnishing firms, breweries, and other public companies founded architectural departments. The war has hastened progress on these lines. Five years of suppression of private practice has virtually suppressed the private practitioner. The great bulk of future building will be undertaken by public bodies and Government departments, and building companies and corporations will arise and are arising to compete with a steadily dwindling minority of private practitioners for the rest. The part of the architect on the corporate bodies will be that of manager and designer, and private practice will be relegated to a few of good social position or charitably employed by interested friends.

The prejudices existing in our midst are too strong to allow us to combine in mass-formation with those who are stealing our place, and consequently the only remaining position we can occupy, to further the cause of architecture, is that of the much maligned official architect or that of his assistant. The practitioner of good social standing will survive for a time in a sphere where commissions may be obtained but never at the rate or of the amount known in pre-war times.

Much that Mr. Dixon says is quite true, but it is surely also true that the public estimate of the architect is the result of the perfect freedom revelled in by any quack to exercise functions the right-ful discharge of which is infinitely more a matter of public importance than those of the lawyer and the doctor? That architects will be held in due esteem by the public when registration becomes a fact, is, we believe, certain; and without it unity is, we believe, impossible. That belief, after many years of discussion, is now shared by the majority of members of all the architectural societies, and if registration does not speedily follow amalgamation, it is probably not greatly worth while endeavouring to unite; in which case we think it extremely likely that the concluding sentence of Mr. Dixon's letter is likely to prove a very probable, if not pleasant forecast.

The death is announced on July 22, after a long illness, caused by enemy air raids, of Louisa Grace Clarke, wife of Mr. Max Clarke, F.R.I.B.A., of 4, Queen Square, London, W.C., and youngest daughter of the late Thomas Gibson Henry, J.P., of Kilkeel, Co. Down, Ireland.

Our Illustrations.

THE QUADRANGLE, WADHAM COLLEGE, OXFORD.

Though not one of the show colleges of Oxford in the sense in which Magdalen and Christ Church may be so called, Wadham is none the less to the architect and artist one of the very finest in Oxford, not on account of its size or grandeur, so much as of the singular perfection of its detail. The chapel is remarkable for a very fine Jacobean screen, and for its beautiful ante-chapel. The dining hall is to a painter the most picturesque possible, owing to its noble timbered roof, and the beauty of its Jacobean woodwork. The garden front is also particularly fine. As an occasion for a picture there is no art of it better than the quadrangle, the subject of the illustration. The fine Jacobean front of the hall, taken in perspective, makes an excellent composition. The figures in the niches are those of King James I. holding a model of the college in his right hand, and the two below of Nicholas and Dorothy Wadham, the founders of the college. The doorway in the picture with the figure standing in front of it is the entrance to the hall. The columns are of Doric, Ionic, and Corinthian orders. Wadham has now the distinction of being the least restored college in Oxford. This drawing was exhibited in the Royal Academy Exhibition in 1916. The artist to whom we are indebted for this watercolour is Mr. Walter S. S. Tyrwhitt, M.A., R.B.A., of Oxford.

A WAYSIDE INN, LITTLE YELDHAM, ESSEX.

"The Stone and Fagot," a small village inn near Castle Hedingham, has been rebuilt, the old thatched house having been burned down. The only part not destroyed were the gate and the bakehouse incorporated in the new premises. A spacious bar, adapted to the limited trade of the house, obviates the need of a tap-room, but there is a small bar-parlour for business transactions. The private rooms are well arranged, and all the fireplaces are on internal walls with two simple chimney stacks of sandfaced 2-in. multi-coloured bricks with wide flush joints. Roofing tiles of local make from Gestingthorpe are used with hip tiles purposely made. The "Fletton" brick walls, keyed for plaster, are externally finished with lime stucco scratched with a guilloche pattern and lime whitened like neighbouring buildings. The bar has a central counter suggested by the French "estaminet," it being thought that continental ideas will be more and more adopted in public-house design. Elm block flooring is used, and fixed seats are attached to the walls carried on steel cantilevers so as to allow sweeping below the settles free of all obstruction. The woodwork is stained green, and the dado shoulder high painted to match the skirting being black after the French fashion. The fireplace of splayed brickwork, as designed by the late Philip Webb, has a movable iron grid of simple pattern. No wallpapers are used, but the walls are distempered. The photograph reproduced to-day is in this year's Royal Academy Exhibition. Mr. Basil Oliver, A.R.I.B.A., of 7, Southampton Street, Bloomsbury, is the architect. Messrs. Mauldon and Sutton, of Sudbury, Suffolk, were the builders.

THE CENTRAL ENTRANCE, THE SKEFKO BALL-BEARING WORKS, LUTON, BEDS.

This drawing, now at the Royal Academy, is one of a pair shown by Sir

A. Brumwell Thomas, F.R.I.B.A., in illustration of these very extensive buildings, which have a frontage of over a thousand feet. The domed pavilion, of which plans, section and elevation are given on one plate, occupies the middle of this great facade, serving as the chief entrance to the factory. The great length of the whole frontispiece, as compared with the elevational height, precluded our giving the entire front, which is an admirable example of factory architecture. The builders are Messrs. Blay, of Dartford, Kent.

WAR MEMORIAL CROSS, RICHMOND, SURREY.

The site for this lantern cross is in the narrow passage approach to the old Parish Churchyard from the main street. Sir Charles A. Nicholson, Bart., M.A., is the architect, and the view reproduced gives a good idea of its position and scale. Figures of SS. George, Andrew, Patrick and David will be erected on the alternate faces of the octagonal shaft. The Roll of Honour includes 500 names, but the shape of the monument made it impracticable to legibly inscribe such a list at a reasonable distance from the eye on this outdoor memorial, so the record will be set up in the church, and a general inscription only will be put on the cross. The upper part of the structure is to contain a memorial light worked by a pulley and chain inside the shaft. The stone will be either Portland or Cliphsham.

FEMALE LOCK HOSPITAL, HARROW ROAD, N.W. NEW EXTENSIONS (SELECTED DESIGN).

This page concludes the series of plans which we have been illustrating of Mr. Alfred Saxon Snell's chosen design to be carried out to bring this well-known hospital up to date. The previous illustrations will be found in THE BUILDING NEWS for April 23 this year. The new out-patient's block, isolation block, and laundry block appeared in July 2, and furnish many useful suggestive details. The present drawing shows the new floor and several changes made in the east wing, besides the new entrance to the hospital, with an operating-room above, as previously described.

A scheme of peace decoration to be seen at the Royal Institute of British Architects in Conduit Street was designed by Professor Pite, who was assisted by Mr. Gray, of the League of Arts. It consists of four Homeric shields with the Mycenaean lions of the R.I.B.A. and four smaller shields decorated with architectural symbols, and surmounted by eight bright heraldic banners.

At the last meeting of the Towcester Rural District Council strong exception was taken by a member to the plans suggested by the Local Government Board. He protested against the bath being put in the scullery, and said the living-room was too small and the ventilation of the bedrooms defective. There were many other directions in which an improvement on the plans was required.

Under a decision which arises out of the amalgamation of the two City parishes of St. Alphage's, London Wall, and St. Mary the Virgin Aldermanbury, the modern part of the former, which dates from 1775, is to be demolished. The church is part of the original structure, which was erected in the 13th century as the Elsyng Spital, and is to be retained and the relics preserved in its museum of mediæval City history.

Mornington Crescent, in the Hampstead Road, is to be sold shortly. In Mornington Place, leading off the Crescent, Dickens had his lessons at the school kept by one Jones, a Welshman, and which is said to have suggested to him the details of Salem House, the Academy to which David Copperfield was sent in disgrace after he had bitten Mr. Murdstone's hand. The Crescent itself is named after the Earl of Mornington, the brother of the "Iron Duke."

URBAN HOUSING IN IRELAND.

Pending the enactment of the Housing of the Working Classes (Ireland) Bill, Local Authorities have been encouraged to take into immediate consideration the requirements of their several districts.

The Housing Committee of the Local Government Board issued a memorandum last month showing what private individuals and associations can do to help in solving the housing problem through the formation of Public Utility Societies. In addition, draft Rules and Regulations relating to such Societies and also to Housing Trusts have been prepared; but their publication has been retarded owing to the dispute in the printing trade in Dublin.

In the meantime, the Housing Committee wish to place all available information at the disposal of those primarily concerned with housing schemes. They will welcome any opportunity of consultation with such persons or bodies; and will earnestly endeavour to prevent any unnecessary or vexatious delay. At the earliest possible moment after site-plans are received from a Local Authority an inspector will be sent to the locality; and recommendations based on his report will be sent to the authority concerned as soon as possible.

On their side the Local Authorities have done much preparatory work during the past three months. Proposals from Local Authorities to acquire 224 sites, comprising more than 1,034 acres, have come before the Housing Committee since the 1st May; and 41 sites, covering 789 acres, have already been approved, sufficient for 5,586 houses.

The following table shows, by Provinces, the number of sites included in proposals submitted up to the 19th instant:—Leinster, 47; Munster, 143; Ulster, 18; Connaught, 16. Total, 224.

It is anticipated that the very liberal subsidy which has now been offered to cover losses incurred in carrying out housing schemes, namely 25s., and in exceptional cases 27s. 6d. for every 20s. of rent collected, will result in a rapid increase in the number of new schemes promoted. Information on this point will be published in the Irish Press from time to time.

It is hoped to publish in the early future a statement regarding the supply of building materials.

COMPETITIONS.

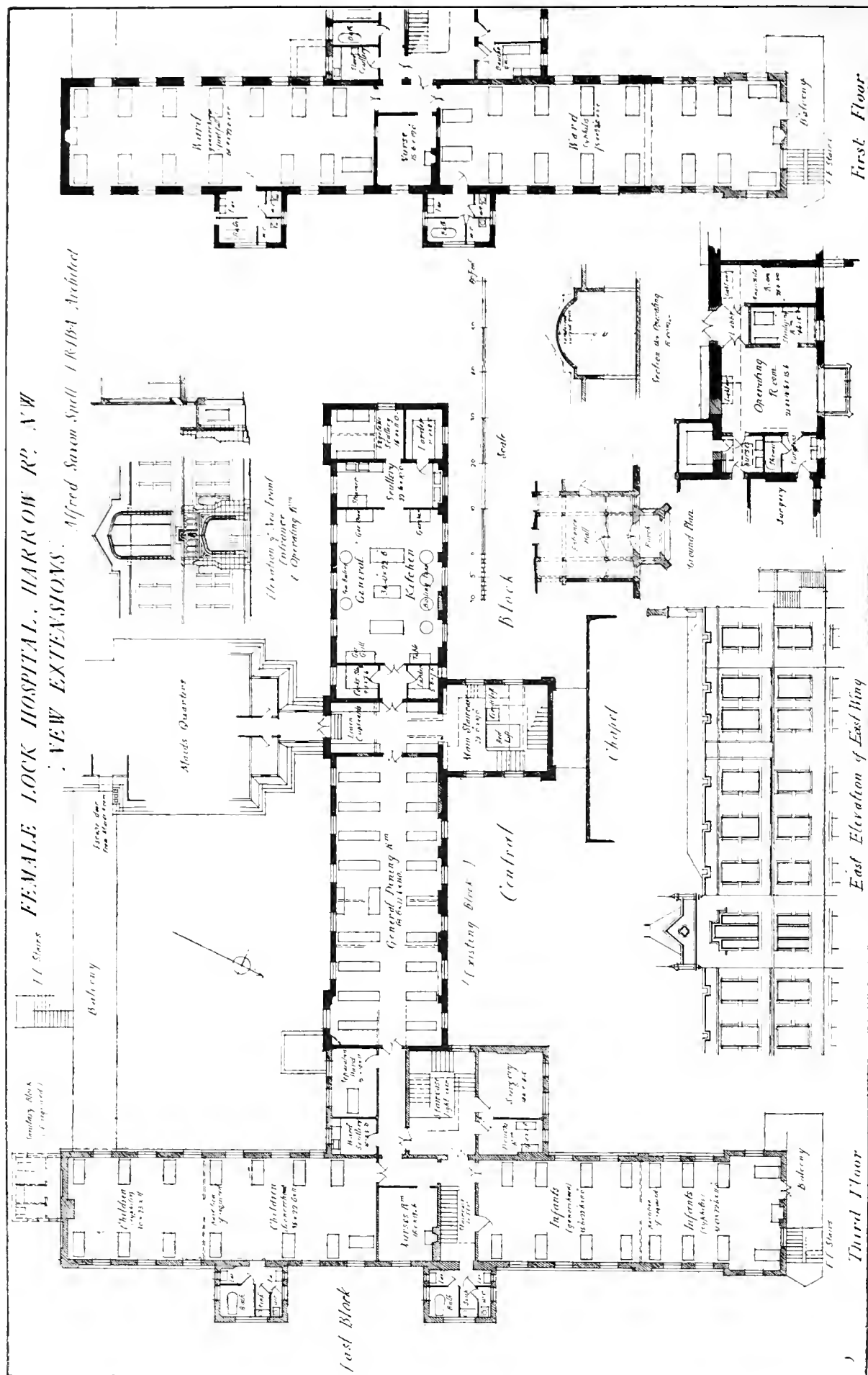
COSFORD RURAL DISTRICT COUNCIL COMPETITION.—The Competitions Committee of the Royal Institute of British Architects requests members and licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute Regulations for Architectural Competitions. The Committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

TAUNTON.—The first prize for competitive designs for houses has been awarded to Mr. A. Lloyd Roberts (Manchester), and the second to Messrs. Leete and Watson (Weston-super-Mare).

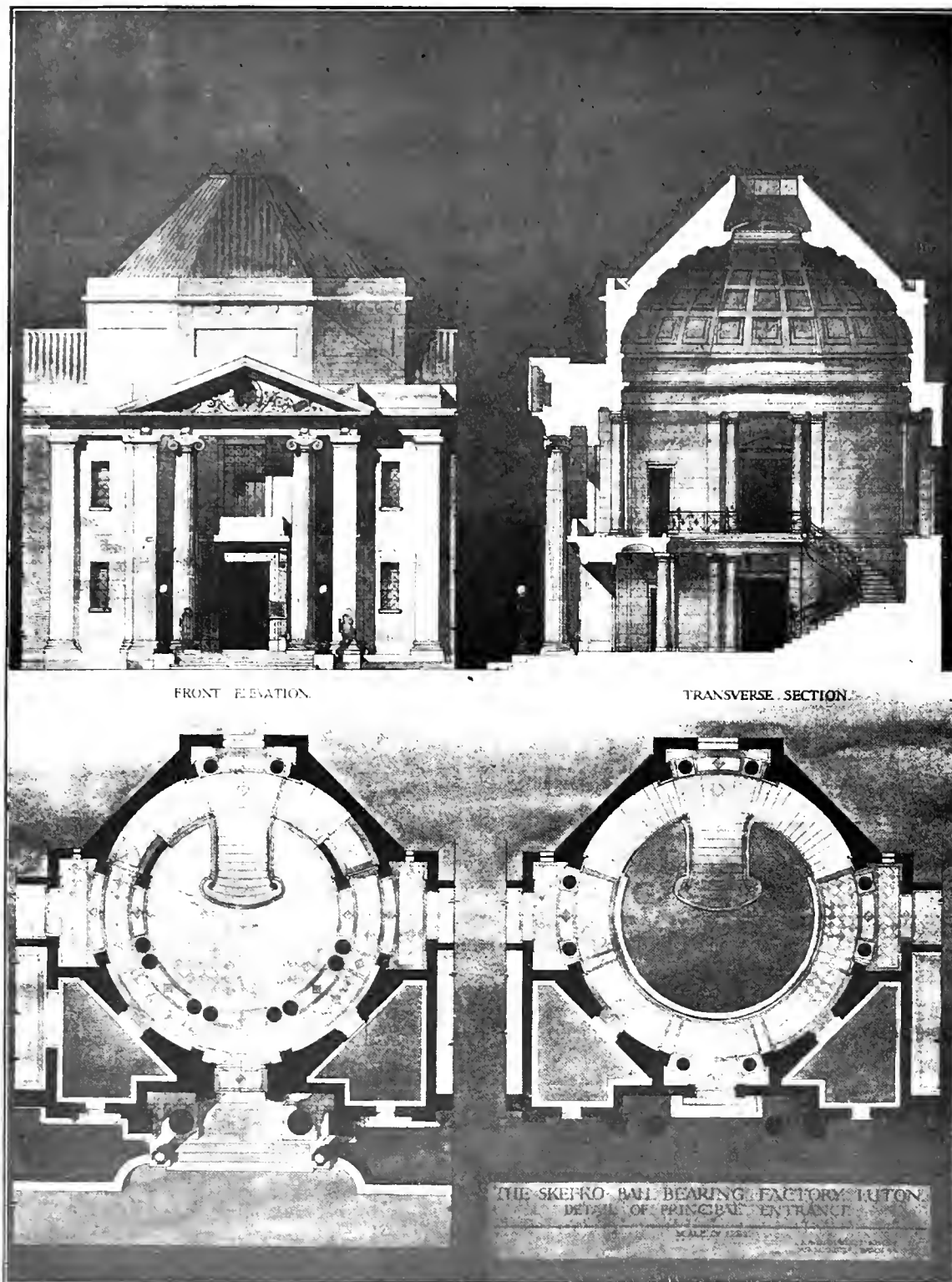
ROYAL SOCIETY OF ARTS.—"Owen Jones" Prizes.—The awards of the judges are as follows:—Prizes: George Willott, School of Art, Macclesfield (Design for a Tapestry Frieze); Mary Bulley, L.C.C. Putney School of Art, Oxford-road, Putney, S.W. (Design for an Axminster Carpet in Eight Colours). Commended: George Smith, School of Art, Macclesfield (Design for a Tapestry Hanging); Maxey Zaimin, Technical School of Art, Arundel-street, Sheffield (Design for a Carved and Inlaid Cabinet); C. T. Bale, Municipal Technical Science and Art Schools, Barnstaple (Design for Wood Panels and Wood Carving for a Ship's Cabin); N. M. Nelder, School of Art, Tiverton (Wood Carving of Centre Portion of a Cornice for a Notice Board; commended for execution but not for the design). Arrangements have been made for the exhibition to the public of the competing designs. They will be on view from July 21 to August 30, from 10 a.m. to 6 p.m., in the Class Room, Department of Textiles (First Floor), Victoria and Albert Museum, South Kensington, S.W.

FEMALE LOCK HOSPITAL, HARROW R^D. W^H

SAOISEN EXTENSION.
Alfred Savon Spill / RIBA Architect



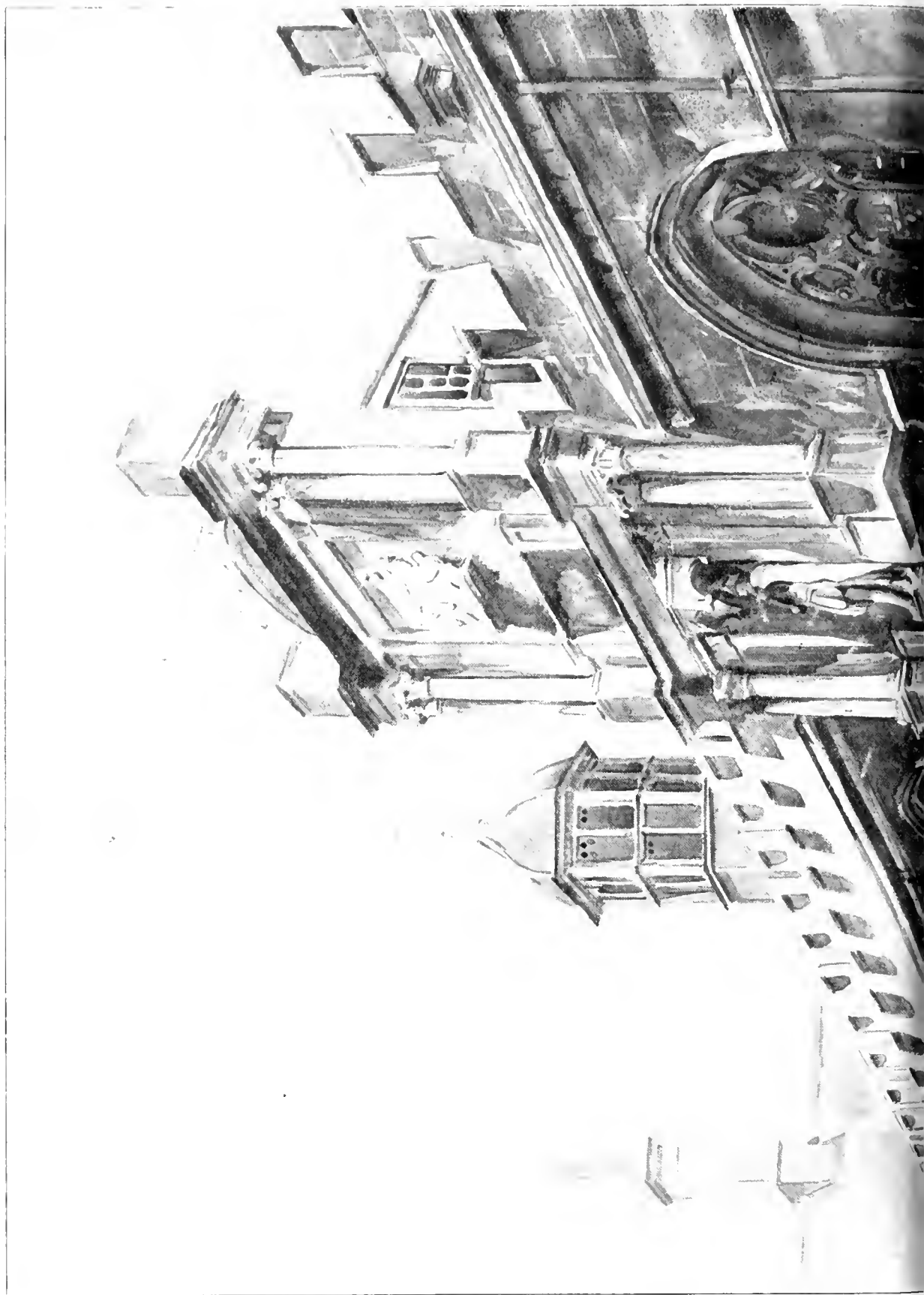
SELECTED DESIGN.



ENTRANCE TO SKEFRO BALL-BEARING WORKS AT LUTON.

S. A. TROWELL THOMAS, F.R.I.B.A., ARCHT.

THE BUILDING NEWS, JULY 30, 1919.

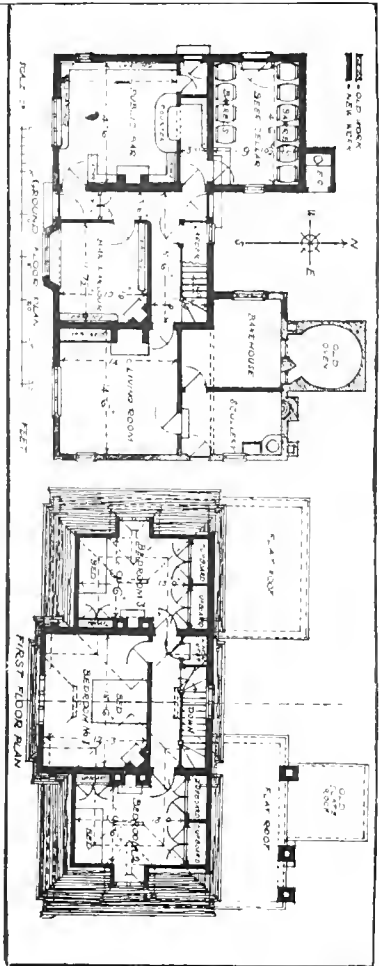




THE QUADRANGLE, WADHAM COLLEGE, OXFORD.—THE ENTRANCE.

From a Water-colour Drawing by Mr. Walter S. S. Tyrwhitt, M.A., R.B.A.

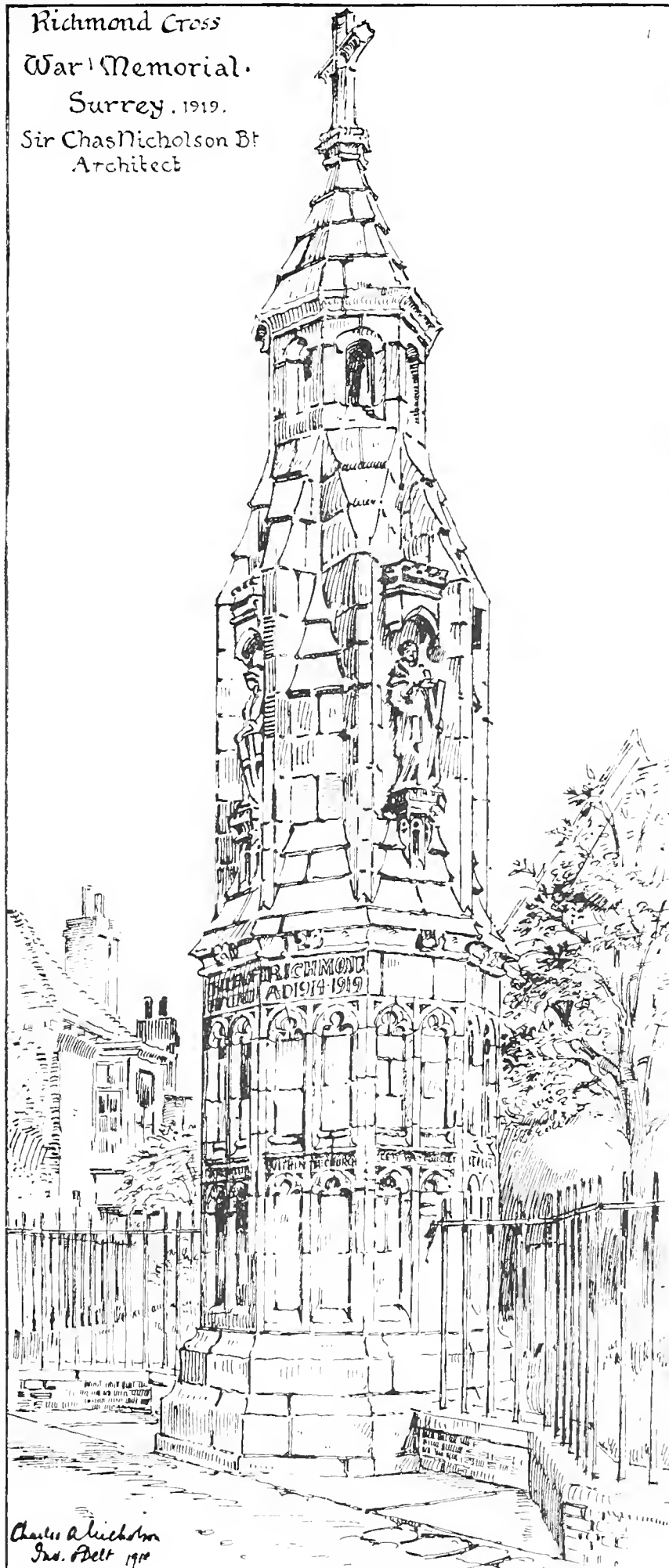
THE BUILDING NEWS, JULY 30, 1919.



WAYSIDE INN AT LITTLE YELDHAM, ESSEX ("STONE AND FAGOT").
MT. BASIL OLIVER, A.R.I.B.A., Architect.



Richmond Cross
War Memorial.
Surrey, 1919.
Sir Chas Nicholson Bt
Architect





SHOP FRONTS.*

By ARTHUR WILCOCK, F.I.B.D.

I have chosen the subject of my paper for no other reason than to express the views of a layman on a branch of work that has for me a very great attraction because of its possibilities. As a designer with an eye trained to the beauty and fitness of things, and to whom a want of balance and proportion is disturbing, I have ventured to put before you one of two propositions which I trust will have some interest for the painter and decorator.

That the art of shop-front designing and fitting is in its infancy must be patent to all. The large majority of our shop fronts lack any sort of design, and are far removed from being suitable frameworks for the display of the shopkeeper. Some notable exceptions prove the rule, and lead one to hope that at last the shopkeeper is beginning to wake up to the importance of an attractive and well-designed frame for his display. The display is the thing, and how to fitly and beautifully frame the display is the problem to be solved.

The correct definition of a shop is a place wherein things are sold, and we must regard the shop front as a place where those things are exposed for sale. Now here comes a most important factor—the requirements of the shopkeeper—in what degree does he rely on this exposure of his goods for his advertisement and trade? Is this a partial reliance or a whole one? To some tradesmen the attractiveness of a window display is everything, to others it is of minor importance. To some the requirement is to expose for sale as much as possible of the entire stock to be purchased inside. To others just one or two samples not priced by way of advertising the kind and class of goods that the purchasing public may expect to find inside.

One shopkeeper may rely for advertisements entirely upon his shop-window display. Another, spending enormous amounts on advertisements in the Press, puts less faith in his shop window. And yet another having a very high-class trade to whom a shop window is almost a dispensable factor, yet, in spite of it, develops and maintains an excellent business.

The buying public are as varied in their methods of shopping as are the methods of sale adopted by the shopkeeper. It is the fitness of these methods to the purpose required that is the art of the thing. A business may be ruined by adopting a wrong policy of advertisements, whether it be by the shop window or the Press. Whatever may be the desirable quality, the one principal object must be to attract, and the shop front may become and is a very attractive element, framing, as it does, the picture, and enhancing the whole effect of the display. As a picture badly and unsuitably framed will detract from its merits, so a badly designed and unsuitable shop front must detract from the merits of a display of goods.

With this axiom of fitness and suitability to purpose always in view and a prime necessity, ought we not to find the art of shop-front designing one of great interest and variety? To the painter it appears to me to give unlimited opportunities which have as yet been almost entirely neglected. A field of work which offers endless possibilities of invention and colour effect.

Now I am aware that hitherto the architect has rarely appreciated the requirements of the shopkeeper, with the result that the shop-front designing and fitting has passed into the hands of the specialist "shop fitter," who on his side has very often not worked in accord with the architectural requirements of the building. Unity of design has very often been sacrificed and a compromise effected which is not always pleasing, and sometimes detrimental to the effect as a whole. Important structural columns supporting the upper part of the building, as an instance, have been so effectively concealed or disguised as to give the appearance of suspension and top-heaviness to the building.

Had we to deal with a ground-floor shop only, without other floors above, the problem would be easily solved. For it is a problem

that presents itself here where the shopkeeper requires as much window glass space as possible. To the architect, given an island site, the solution is simple enough by the setting back of the foundations 10 ft. This will admit of an almost entirely glass front from top to bottom of the building. Here the shopkeeper can positively revel in the expanse of glass behind which to display his goods.

The converting of the shop front of an existing building into one in which as much glass as possible may be used, has many difficulties, but difficulties which are not insuperable. The ingenuity and inventiveness of the shop fitter specialist have in many notable instances shown how well qualified he is for this particular work, but I do feel in much of it he requires the guidance of the artist. The commercial success of the shop fitter is apt to make for a self-sufficiency which is impatient with interference from the outsider, however well qualified he may be to render help.

CONSTRUCTION.

The coming of ferro-concrete and steel construction has been of the greatest advantage to the shopkeepers. The principles which govern this form of building are wholly different from those which obtain in the brick and stone construction of the Classic and Gothic styles; we have therefore to readjust our ideas to accord with these new principles.

With this construction very wide spaces can be bridged with narrow piers, so giving the maximum amount of window space.

I shall not here venture into that larger question of superstructure with its attendant difficulties. Naturally, a brick or stone building running up to five or six floors, if it is to appear well supported, will sometimes admit of nothing but supporting columns. Even solid masonry, with little or no window space for the shopkeeper on the ground floor, would only appear adequate support for some superstructures from the point of architectural view of stability. It is no delight, and even a source of much unrest, to look upon a structure that appears to have no base or support, or supported only on sheet glass. To overcome this, while and if architects still persist in building on Classic lines, massive supporting columns may be run down to the ground and the shop front recessed. If this meets the requirements of the shopkeeper well and good, but as a rule the shop front is required to be right on to the street, so that the casual passer-by may be arrested by the display without having to step aside under the shadow of an overhanging superstructure.

One would have thought that with the advent of such a revolutionary structural method as the "ferro-concrete," architects with any powers of invention, would have discarded such Classic styles as used in building temples, and set to work to create a new style of building for big shopping emporiums. The possibilities are there, and with the architect I leave this subject of construction.

Now I will ask your attention to the shop front as a subject in itself, apart from its superstructure. This is where the shop fitter begins to play about, and surely there is every excuse for the designer doing the same thing that pleasure may result, if not profit. So with a mentality untrammelled by any tradition I will proceed.

First of all, I would like to ask you to consider whether this desire for as much plate glass as possible is really a serious necessity of the shopkeeper. I think it is. How low should the glass come, and should we dispense entirely or almost entirely with the stall board? This will depend upon the nature of the display. Indeed, this dependence will be our guiding principle in designing the elevation. This it is that will help to give each shop front a distinctive character and so help towards that variety and interest which I have before alluded to as so lacking in our shopping thoroughfares. I do not here say that the difference in many instances will be very marked, but surely the difference of the frame to a drapery display from that of a jewellery display should show a wide difference in character. In the one case, for the fit display of dresses and robes the floor line should be nearly on a level with the street. In the other, for the display of jewels and silversmithing,

the floor line of the front should be as near as possible to the eye to admit of minute inspection. With the retention of a stallboard in this latter case an important decorative treatment might be fit and appropriate which in the other would be dispensed with entirely. In any case a projecting kerb should be avoided which comes against the feet and renders the shop gazer liable to fall forward against the glass.

The shop front of the dealer in ceramics and that of the Oriental merchant, like many others, should appeal to the designer for special treatment, each showing a definite and distinctive character of its own.

RECESSED FRONT.

In my opinion, the recessed front is the ideal shop front. It not only makes the necessary break to the superstructure, but it gives to the shop gazer room to view the display in greater seclusion than on the thoroughfare pavement.

Where the shop front is of comparative narrow dimensions the display can be very considerably augmented by the recess, but, of course, only by diminishing and darkening the actual shop interior. Many and various are the methods adopted to this end by the shop-fitter with varying success. This is where the expert shopfitter can exercise his ingenuity. I know, however, of some recesses with expanses of convex and concave glass that positively make one giddy with reflection and refraction. It is a real relief, however attractive the display may be, to be out again on the terra firma pavement.

The combined recess and bow front.	} Their decorative value and possibilities; a proposition.
The frieze above the fascia.	
The sun blind. The shutter.	

MATERIALS.

The materials to the hand of the shop-front designer are many and various. Those coming into the building construction are stone, marble, bricks, glazed and unglazed, etc. The various woods, bronze, and iron are used to support the glass. Mosaic can be used with advantage in the fascia, spandrels (if any exist), panels, etc. It is, however, my purpose in the interest of the painter and decorator that spaces of this kind may equally well be filled with painted decoration to accord, if possible, and to suitably frame the display in the window. Of recent years brass and oxidised bronze have been very successfully brought into use, and some very refined fronts can be seen in some of our shopping thoroughfares.

If the shop-front designer proceeds on the general principle of fitness to purpose what an added interest would be given to our streets. What variety and charm in our walks through the great shopping centres of our towns and cities if each shop front were really thoughtfully carried out in harmony with the display it holds? Imagine, if you can, for example, such a scheme carried through in our Regent Street, composed, as it is, of dealers in every variety of merchandise in silversmithing, in jewellery, drapery, millinery, china, glass, etc., etc. If the designer, first making himself acquainted with the kind and manner of display, would set to work to give his client shopkeeper something really distinctive and characteristic, avoiding, on the one hand, over-elaboration, and, on the other, any affectation of naive simplicity.

Beautiful and chased, as a well-designed frame encloses a picture, to play a subordinate, but by no means unimportant, part in enhancing its value. Anyone with quite average business acumen will tell you that goods displayed in a refined environment will command a better price than those shown in one of sordid undistinctiveness, and it is a "penny wise" policy that prevents the shopkeeper from spending freely to the end that he may have for his goods the very best setting procurable.

Now I have left for the last part of my paper a matter that particularly concerns the painter and writer. You are aware that we are now in the Hall and the guests of the Painters' Company, one of our ancient City Guilds that in days past had the responsibility of training the craftsmen, and also the right to censure and fine any such guilty of bad work. If this right could still be enforced I am quite sure our company would have a hand-

* A Paper read before the Institute of British Decorators. By Arthur Wilcock, F.I.B.D.

some sum to put to its credit if but one item of the shop front were considered. I allude here to the writing of the fascias. You have already had an excellent paper read before you by Mr. Barrett on the subject of letters and lettering, in which he claims attention for a greater individuality in the rendering of familiar signs. It passes my comprehension why, with all the progress we have made in other artistic crafts, the art of lettering over the shop front is in most cases so ill-proportioned, so utterly devoid of character, and why, when the writer is striving after any originality, he produces such bastard signs. In looking at many such examples over our shops one thinks as Hamlet, when addressing the players, "that some of Nature's journeymen had made men and not made them well, they imitate humanity so abominably." It is the human element that one gasps for in the whole of our art while we follow blindly bad traditions. Fortunately, some of our schools of art are doing excellent work in opening the eyes of the young student to good tradition in the fine examples of the past and best periods of lettering. This is the only way to a self-expression which we might call human. If only some of our trade sign writers would take to painting door and window frame, and give these young students a chance at lettering, what a much happier world it would be.

So much for the writing of the fascia, but I cannot help asking myself the question: Why has the painter and decorator no other part in the shop front? Surely this is a decorative field of work that ought not to have passed out of his hands so entirely. I venture to say such would not have been the case if he had shown himself to be more of the artist than he is, and a *practical* artist. The business man lacks imagination and vision in not encouraging in every possible way the man who has cultivated imagination, *the artist*. But the right sort of artist has not been forthcoming for the reason that his training has been narrow and exclusive. It should be our business, therefore, to see that this training is on broader and more practical lines. We badly want in these days a better union between Art and Commerce. The artist must realise that he has not come into the best of worlds, and, like most workers, he has to accommodate himself to the needs of those around him. Because he is an artist does not excuse him one bit from possessing a degree of common-sense and practicality. On the other hand, the commercial man, because he has succeeded on certain lines uncommonly well in the past, it does not follow that those lines are the best. If he is out for quality, the artist has much to teach him. I fear the one discredit and distrusts the other, and the sooner such a state of things is altered by better understanding the better for us all. Temperamental incompatibility caused by wrong training of the artist is the cause of this. Does one wonder that under the present unfortunate conditions the commercial man gets all the plunder, and the artist is nearly always "at the bottom." I feel very keenly on this subject, and, being an artist with a strong tendency to commercialism, or (shall I say?) "common-sense," I view with concern the hothouse culture given in many of our schools.

The artist has no exclusive right to idealism, and certainly has no right to hold aloof from the world's work because the conditions do not please him. If he cannot find room for self-expression in trade he has been unwise in selecting a vocation dependent upon it to which he must in some measure adapt himself. The man who pays the piper will always call a tune, but, notwithstanding that, the artist can, and should, influence the tune that it may be more harmonious.

Professor A. E. Richardson, lecturing last Friday at the Architectural Association on "The Modern House," said that, architecturally, things appeared to be improving. People wanted houses with a flavour of old England. The domestic architecture of the seventeenth and eighteenth centuries, including the English work in America—for the best work in America was English—was essentially modern in spirit. In describing a number of lantern slides of seventeenth and eighteenth century houses, he said that those beautiful buildings might well be copied by modern architects.

ART, ARCHITECTURE, AND ENGINEERING.*

By JOSEPH PENNELL.

May I tell you what many of you may already know, that the great feats of engineering in the past were achieved by artists who were also engineers? This has been true from the very beginning of civilization. Noah was an engineer when he built the ark, and I am sure that he decorated it with colours.

ARTIST-ENGINEERS.

But, to skip from that period down to the time of two of the greatest engineers who have ever lived: one was Michael Angelo.† In addition to being an artist, a painter, a sculptor and an architect he was also an engineer, and a poet, too; he designed (about 1547) and constructed, as an engineer, the whole of St. Peter's (Rome). He put the dome of that church in the air in a most wonderful engineering fashion, did it all himself, and was paid the munificent pittance of \$40 a month and a bag of flour, and then a mere sculptor and architect got the job and nearly ruined the building. The other, and almost contemporary with Michael Angelo, was Leonardo da Vinci,‡ who likewise was an engineer as well as a painter, an architect, a sculptor, and a caricaturist. Leonardo da Vinci built a great many of the fortifications around Milan. He built bridges and designed the first aeroplane known. Whether the machine, if constructed, successfully flew or not I do not know, but in the British Museum, in one of his sketch books there is a series of drawings for an aeroplane.

PANAMA ENGINEERING.

From the time of the Egyptians and the Assyrians down through centuries to the Greeks and the Romans there was no difference between an artist, an architect, and an engineer. They all worked together and worked with the same aim—building and beauty. Only a few years ago I went to Panama and saw that most wonderful piece of engineering—the Panama Canal. Just before the water was let in, I went down there one day and was talking to Mr. Williamson, one of the engineers, the man who built what they call the "Miraflores" lock and the "Peter McGill" locks. They had other names in Spanish, but that is the way they are pronounced in English. The first time I went to the Miraflores lock to make a drawing I saw two wonderful Romanesque buttresses in concrete leading up to the great lock gates, and I remember—the following Sunday night, I think it was—we were sitting on Mr. Williamson's porch and I said to him: "How in the name of Heaven did you design those Romanesque buttresses just the way the designers of the cathedrals in the south of France did the same work?" He said: "I never heard of any Romanesque cathedrals or buttresses or anything of the kind, but if they built those buttresses the way I did, they were pretty good builders." Then I asked: "Why did you do it?" He replied: "For two reasons; first, because it is the strongest way to build an arch, and, second, because it saved concrete."

When I think of an American engineer knowing that much, it reminds me of another story. Colonel Goethals said one day a number of United States Congressmen and Senators came down to the Canal on a special steamer and landed at Colon. One of these gentlemen was good enough to ask the Colonel: "Have you any idea how long this concrete will last?" The Colonel replied: "No, I have no idea how long this concrete will last. Neither did the Romans know. But I know how long theirs has lasted, and this is going to last as long as theirs at least." The distinguished visitors from Washington went back, and as they got into the boat someone said: "The Lord giveth and the Lord taketh away. Blessed be the name of the Lord."

ANCIENT AND MODERN CONSTRUCTION.

There are many other Panama stories that I could tell you of an engineering type, but

* Presented May 20, 1919, at the Engineers' Club at Philadelphia.

† Born 1475, died 1564.

‡ Born 1452, died 1519.

what I want to say is this: That, having seen the Panama Canal and other great engineering works of this country and Western Europe, there were several things I wanted to find out, one of which was whether that statement of Williamson's was so or not, whether the great lines of modern engineering were the same as the constructional lines of ancient art, and I went to Greece, where I knew I could find out whether I was right or wrong, and I found out that the structural, supporting, vital lines in the Greek temples are the same that you people are putting in concrete and steel work in the great iron works and every great building to-day—whether you know it or not, you are doing so, because from the very beginning it has been the strong line, the line of resistance, the line which everybody knows is the right one—the line of best support. The only difference is that in the past the Greeks and Romans devoted their energy and their skill to constructing temples and monuments while we to-day have our churches and our monuments in the great industrial works, the modern temples—the shrines of work. But every line that you put up is the line which was used three or four thousand years ago in engineering and building. You cannot improve those lines of construction, but only carry on tradition. Of course, instead of stone, you are using steel, but every line is the same, and that is the reason why the work of the engineer is so wonderful.

A NATIONAL BUREAU OF ART.

To get down to hard facts, instead of psychology and uplift and soul and various other things and "isms" of that sort, of which we heard a great deal last week in New York at the Art Congress, the proposition was made that in this country there should be a minister—not of finance, but of art. When you come down to it, that means that this country should have, as every civilised country in the world has, except Great Britain—and she would have had it if she had not had the war instead—a minister to control, direct and advise about art. And engineering is a part of it. We thought that we had done something in that last conference. I do not know that we have, because it means an enormous amount of work, and all the talking that went on there was only preliminary. Nevertheless, we have the idea, and if you adopt that idea of a minister of art, under him will be included the artists, the architects, the musicians, the players, and even your engineers. We are all going to come in under the circus tent because, to go back again for a moment when the Greek engineers designed their structurally perfect buildings, they always had architects, sculptors, and painters to decorate them. And that is what we have to do again to-day. You engineers must work with us, and we are bound to work with you.

TYPES OF AMERICAN ART-ENGINEERING.

Let us consider for a moment one of the great buildings in the United States—Cass Gilbert's Woolworth Building. He told me himself—and he is the biggest man in architecture this country has ever produced—that it was simply an engineering problem. He said, "I put it up from an engineering standpoint and had to hire engineers to work out really the construction, but I wanted to do what the engineers could not do—make that wonderful building beautiful." And he has. If such a structure were in London or Paris you would take an excursion steamer and go to see it, but now you do not pay any attention to it, except to put your hat on tighter as you go by, lest you might lose it in the wind that swirls round the base. Yet there is one of the greatest engineering problems that has ever been solved in this world. The bridges in New York are splendid examples of the same thing. The Brooklyn Bridge and Manhattan Bridge are, owing to your engineers, beautiful in line to artists. Manhattan Bridge has splendid approaches, and we have a chance here in Philadelphia, as Professor Laird told you two months ago, to make another beautiful bridge from Camden to Philadelphia. You must make it strong, to last, and the architects and the sculptors will make it

beautiful. But in all these things, as I say, you and we artists must work together.

WAR MEMORIALS.

And that leads me to another question: At the present time everybody is thinking and talking about memorials, and every war memorial is to be devoted to the benefit of something or somebody. The whole question of war memorials is rather like a story that is told of a bill that was brought up in the English House of Commons one day. A member got up and said: "I have a great bill to propose for the benefit of Scotland." Immediately a Scotch member arose and said: "And what are you doing for Glasgow?" He sat down and another member jumped up and said: "Nae, it's nae Glasgow. What be ye doin' for Sauchiehall Street?" A third caught the Speaker's eye: "Nae, 'tis not what ye be doing for Sauchiehall Street; it's what'll ye be doin' for me?"

Now, there is just the difficulty with the war memorial in this country. There is no big idea in the big country at all. Every local authority, in fact, every man, woman and child—especially the children—in this country has an idea as to just where the war memorials are going to be, and that they are to go in their town or village or street. That is their idea, and they don't care a cent about the rest of the nation.

When Napoleon won his battles at the beginning of the last century—when he conquered more or less of Germany, and thought he had conquered more or less of Italy, and thought he had conquered Russia, and attempted to conquer England—he built to the very utmost point of conquest his wonderful high roads. There are fifty or sixty of those roads, all starting from Paris to-day. He built those roads, and then, like the Romans, he decorated them. As you leave Rome by road, if any of you have, as I have, you know there is a road which stretches from the Forum in the City of Rome, straight to the City of Newcastle, England. That road still exists and is used to-day. I do not say that the paving was not pretty terrible, but when that road was built and finished the Romans decorated it, and erected their triumphal arches, their great bridges, their temples, their theatres, all along it from Rome to Newcastle.

Before the war I saw a great deal of Germany. I was there when the war broke out. I do not know if any of you have seen that wonderful steel plant, the Cape of Good Hope Works, at ABERHAUSEN. Well, there are a series of blast furnaces in the background painted every month or so a beautiful blue. The stacks are painted the most gorgeous vermillion, and in front of that wonderful colour scheme in the evening, when the sun sets, they have a grass plot. I have never seen such a colour scheme in all my life. Little trains carried fiery slag around it, and the colour scheme in the evening was beyond words. That thing if put on the highway—Lincoln Highway—would bring more people to see it than any cathedral or church. It is one of the most wonderful spectacles in the world.

The same thing was being done all "over there" just before they were driven into war. The same thing was being done at some of the shipyards. I have been at some of those yards, Whitworth's and the Vulcan. That German yard is a most beautiful thing, and it was designed exactly like a Greek temple. So are the New York Ship Building Company's yards; the interior of those yards is one of the most wonderful things I have ever seen, and yet they were purely engineering projects, yet designed on the line of the Greek Temple.

The Falmouth Corporation Housing Committee has received the lay-out plan for the Penwerris housing scheme from the Garden City Housing Co. Messrs. C. B. Corfield and H. E. Tressider have been appointed joint architects for the scheme.

Dr. Addison, the Minister of Health, has appointed Mr. J. C. Dawes to be Inspector of Public Cleansing and Salvage. Mr. Dawes was largely responsible for the successful municipal salvage work carried on by the National Salvage Council during the war.

Building Intelligence.

PERTH.—At a meeting of subscribers and others interested in the scheme for restoring the ancient and historic church of St. John, Perth, as a county and city war memorial a report was submitted of the work already done by the executive committee. The Duke of Atholl explained that ecclesiastical difficulties were being overcome, and all parties concerned were working in entire agreement towards the end in view. The subscriptions received and notified to date amounted to £28,628 17s. Although no exact estimate of the cost has yet been ascertained it is anticipated that £50,000 will be required. A beautiful and costly window has been presented, and it is to be worked into the scheme of restoration. On the recommendation of the executive committee, it was unanimously agreed to ask Sir Robert Lorimer to undertake the work of restoration and prepare plans, and the meeting gave the executive committee powers to approach the heritors, who are the Perth Town Council, for their approval of the appointment of Sir Robert Lorimer, and also to ask them to take the necessary steps before the Teind Court this winter to adjust the ecclesiastical rearrangements that will be necessary in view of the restoration of the church.

OBITUARY.

We regret to announce the death of Sir Edward J. Poynter, the late President of the Royal Academy, last Saturday morning, at the age of 83, at his residence, 70, Addison Road, W. He was born in Paris on March 30, 1836. His mother was the granddaughter of Thomas Banks, R.A., a sculptor, and his father, Ambrose Poynter, was an architect, among the buildings designed by him being Christ Church, Westminster. Educated at Westminster School, Brighton College, and Ipswich Grammar School, in 1852 ill-health compelled Sir Edward Poynter to spend the winter in Madeira, where his studies were continued privately. In 1854 he went to Rome, and there he made the acquaintance of Frederick Leighton, and painted in the same studio. Returning to London, Poynter studied in Leigh's School in Newman Street, and was enrolled as a student at the Royal Academy. In 1856 he became a pupil in Gleyre's atelier at Paris. Returning to England in 1860, he was commissioned by William Burges to help decorate Waltham Abbey, his share in the scheme consisting of the "Twelve Signs of the Zodiac," the "Four Seasons," and the "Four Elements." Another work done by him for Burges was purchased by the Department of Science and Art, which body soon afterwards gave him a commission for the figures of "Apollo" and "Phidias" now at the South Kensington Museum. In 1861 he began to exhibit at the Academy, his first contribution being a pen-and-ink drawing called "Alla Veneziana." A series of fine canvases, which included the "Catapult," won for him Associate rank in 1868. From that year onward many notable pictures left his studio, and honours came with almost overwhelming rapidity. He was elected a Royal Academician in 1876, and President of the Royal Academy in 1896. The first Slade Professor at University College, he was afterwards appointed Director of the National Art Training Schools, and acted for eleven years as Director of the National Gallery. His portrait hangs in the Unzani Gallery, Florence. He was a member of the Royal Society of Painters in Water-Colours, the Royal Society of Etchers, and an honorary member of the Royal Scottish Academy. He was a member of the Athenaeum and of the St. James's and Burlington Fine Arts Clubs. Knighted in 1896, Sir Edward was made a Baronet in 1902 and a G.C.V.O. in 1913. He was the author of "Ten Lectures on Art." His wife, who died in 1906, was a sister of Lady Burne-Jones and Mr. Rudyard Kipling's mother. He is succeeded in the title by his son, Mr. Ambrose Poynter. His other son is Capt. Hugh Poynter.

Correspondence.

UNITY OF THE ARCHITECTURAL PROFESSION.

To the Editor of THE BUILDING NEWS.

Sir.—At a meeting of the new Council of the R.I.B.A., held on July 21, the question of the unity of the profession was the subject of earnest consideration.

The following resolution was passed by a unanimous vote:—

"That the Council of the Royal Institute of British Architects is determined to make a further effort to unify the architectural profession, and is about to consider the best means of attaining this object."—Faithfully yours,

IAN MACALISTER, Secretary.

9, Conduit Street, W.I., July 22.

STATUES, MEMORIALS, etc.

DUNDEE.—At a meeting of Dundee War Memorial Executive last week, a discussion took place as to the procedure to be followed in connection with the erection of a war memorial on a central site. Bailie Buist, who presided, said he did not see why the Finance Committee should not begin now to raise a sum of £60,000, while the committee having charge of the nature of the memorial should also prepare to receive designs. Lady Baxter said she thought the public would like to have some idea of what they were being asked to subscribe for, and Treasurer J. C. Robertson said that no Finance Committee which had any experience of raising money in Dundee would ask the public for subscriptions for anything that was so illusive as this project was in the meantime. The chairman's proposal was agreed to.

ISLINGTON.—At a public meeting held on April 1 last the two principal schemes considered were (1) an extension of the Great Northern Central Hospital, and (2) a hall for discharged and demobilised sailors and soldiers. As a result of a conference of supporters of both schemes, it was unanimously decided that the War Memorial for the Borough of Islington should take the form of an extension of the Great Northern Central Hospital premises, and that the desire of the discharged and demobilised sailors and soldiers for a hall should be afterwards recognised. The Committee of the Hospital have been fortunate in securing the services of Sir Aston Webb, F.R.I.B.A., President of the Royal Academy, as Assessor of the Plans (which will be procured by competition). The structure will be erected in Holloway Road and Manor Gardens, with a tower and public entrance hall at the corner. In the entrance hall will be inscribed the names of the Islington men and women of the Naval, Military, Air and Auxiliary services who have fallen in the war.

ROYAL ACADEMY OF ARTS.—WAR MEMORIALS EXHIBITION. — OCTOBER-NOVEMBER, 1919.—The Royal Academy War Memorials Committee is making arrangements for the second section of the Exhibition of War Memorials, to be held at the Royal Academy in October and November, 1919, and to consist of works or designs for works in any class of Art or Craft selected by the Committee as suitable examples for the guidance of promoters of War Memorials. The Committee desires to make the Exhibition as fully representative as possible of the various forms which memorials may take, and trusts that artists and craftsmen, and also owners of suitable exhibits, will do their utmost to support the scheme by sending works. It is not intended to show works with a view to copying or slavish imitation, but to assist the public in the selection of suitable designs and of qualified artists, and to suggest the different forms available for Memorials. A Bureau of Reference will be provided for supplying applicants with information regarding memorials, artists and craftsmen. Works and designs for works suitable for War Memorials in sculpture or architecture, crosses, decorative paintings or

tablets, brasses, metal-work, screens, stained glass, rolls of honour in vellum, etc., tapestry or embroidery, will be admissible for selection by the Committee. Each work or design must be accompanied by the name of the designer and of the executant artist. Special Committees will be appointed by the Royal Academy Committee for selecting the exhibits from the works sent in. Schemes which are wholly or largely utilitarian do not come within the scope of the Exhibition. The Committee reserves the right of excluding any work which may be considered unsuitable for exhibition. All communications should be addressed to the Secretary, Royal Academy, Piccadilly, London W.1, and intending exhibitors will be sent forms and labels on application. It is hoped that the Exhibition may be open towards the middle of October. Each applicant for forms and labels should enclose a stamped and addressed envelope, which should be sent in during August. Applicants should state the number of labels required. Works must be sent in on either Monday, September 22, or Tuesday, September 23, between 8 a.m. and 8 p.m.

SANDHURST.—The project for erecting a permanent memorial at the Royal Military College, Sandhurst, to commemorate its 3,276 fallen ex-gentlemen cadets is to take the form of a memorial chapel placed across the present building, and so constructed that the old chapel will still tell its story, its existing west end and apse remaining, the latter as a side chapel, and the old monuments being grouped around them, while the new chapel will be a complete and practically self-contained memorial to those it is specially desired now to commemorate. The design and proposed scheme of decoration can be seen at the Royal Military College on application to the architect, Captain A. C. Martin, F.R.I.B.A., Royal Military College, Camberley.

Our Office Table.

In very fitting reply in its issue of the 23rd inst. to a correspondent of the *Daily Chronicle* who declared that "now is the chance of an age for architects," Mr. C. McArthur Butler wrote the next day, as secretary of the Society of Architects, from 28, Bedford Square that the fact was that architects are only waiting to take the chance. "Your contributor," he added, "makes the point that even with so unpromising a material as concrete much can be done if an architect is commissioned to produce something pleasing to the eye as well as good to live in. So with other materials, and by the more general employment of professional skill, the natural amenities and local traditions can be preserved, and housing schemes can be made things of beauty. We might emulate France with advantage, not only in the direction indicated by your contributor, but also by setting up a Ministry of Fine Arts, whose functions it would be to foster, protect, and promote all the arts, including that of architecture, the mother of them all."

Mr. Justice Rowlatt, on July 22, dismissed an appeal by a company, which carried on the business of naval architects, from an assessment to excess profits duty under the Finance (No. 2) Act, 1915. The appellants contended that they were entitled to exemption under Section 39 (c), as they were carrying on a profession which was dependent mainly on personal qualifications. His lordship declined to hold that a company could carry on a profession, because, in his view, the exempting section contemplated the personal qualifications of individuals only. (William Esplen, Son, and Swainston, Limited v. Commissioners of Inland Revenue.)

To help in meeting the need of housing accommodation the Government has decided to transform wooden huts used during the war into model bungalows, and to offer them for sale to the public. A specimen is on view in the Horse Guards Parade, where it will be for some time. It is a type of the

ordinary sectional hut used in the Army, measuring 60 ft. by 15 ft., and is about 8 ft. in height. The accommodation consists of one large living room, 20 ft. by 15 ft.; three bed rooms, of which the biggest is 15 ft. by 10 ft. in size, the other two being 10 ft. by 10 ft.; scullery, larder, coalhouse, bath, and W.C. The bed rooms are 7 ft. 9 in. in height. There is also a cooking range, and in addition an 18 gallons farm boiler, while every bed room contains a stove. The hon. architect is Mr. E. Vincent Harris. It is estimated that the life of a bungalow hut would be from fifteen to twenty years. The price of Army huts averages about £100, and as the cost of converting them into bungalows of the same kind as the one in the Horse Guards Parade would be nearly £300, the whole amount to be expended is £400.

The lack of small dwellings is severely felt in the city of Hanover, and the authorities are attempting to deal with the problem. The *Technical Foreign Press Supplement* abstracts from *Die Volkswohnung*, Feb. 10, 1919, an article describing a small dwelling settlement at Laatzen, near Hanover, and is written by the city surveyor, Paul Wolf. From an investigation made six months ago, it appeared there was a shortage of between three or four thousand small dwellings in the city, the population of which is about 325,000. The city authorities offered part of the municipal lands at a price 20 per cent. below pre-war prices to certain building societies. A block plan is given of the settlement at Laatzen, and the various types of dwellings are fully illustrated and described. A characteristic type consists of a row of single-family houses on what the author calls the 1½-storey design; that is to say, there is a ground floor with a second floor of smaller area built in the roof, which is of the usual ridge type, with some gables. On the ground floor each house comprises a sitting room, a kitchen, a combined scullery and wash-house with bath, a cow-stall and w.c., and on the first floor one large and two small bedrooms. The row illustrated consists of six houses, and the author states that in pre-war times it would have cost 6,000 marks (say £300) per house, but with an increase in cost of 137 per cent. the present price is 14,200 marks (say £710).

Liverpool is to lose another of its century-old buildings by the demolition of Kelly's Theatre, in Paradise Street. The building, which was opened in 1791, was constructed for a Unitarian chapel, and was used as such until 1849. Afterwards it became the Coliseum Theatre, and possessed other names before it passed into the possession of Mr. W. W. Kelly, who gave it its present title. For many years after it became a theatre the building continued to be used on Sundays for sectarian work. The original building, according to Picton, "was a piece of architecture by no means without merit. It was octagonal in plan, a form which seemed about that period to have found favour with many Nonconformist congregations. The material was brick, faced with stone. Towards Paradise Street there was a projecting portico, with attached columns carried to the height of the building and finished with a pediment. The roof was conical, crowned at the summit with a small cupola."

During the week ended July 19 the number of new schemes submitted was well above the weekly average. Two hundred and two new schemes were received by the Ministry. The schemes comprise an area of about 1,400 acres—land sufficient for about 14,000 houses. The total number of schemes submitted is now 3,465, comprising an area of about 38,000 acres. The plans of the houses to be erected on the Oak Hill site by the London County Council were submitted and approved during the week. The tenders for the 350 houses comprised in the scheme have also been approved. The provision of material and labour for the new houses has for some time past been the care of a special section of the Ministry, called the Production Branch, and the branch is now busy perfecting an organisation to assure that the best use is made of local materials and resources. Each Housing Commissioner's district will have its "production officer," who will be concerned in arranging for local supplies of building

materials and labour, so far as these supplies may be used practically, and for arranging measures to facilitate transport. With these officers will work advisory committees of expert local men to assure that the fullest local knowledge and experience are available.

A note presented to the Académie des Sciences by M. Vasilescu Karper on the causes that contribute to the strength of ferro-concrete, describes experiments with concrete on metal surfaces, from which it is clear that there is no adhesion such as takes place with mortar on bricks. The strength is due, according to M. Karper, to the contraction of the concrete on the metal, and even when the iron rods were polished and lubricated the friction was so great that it was impossible to remove them. M. Karper concludes that adhesion between the two materials has nothing to do with the resistance offered by ferro-concrete.

Provisional approval has been given by the Ministry of Health to the London County Council's scheme for the development of a part of the White Hart Lane Estate, Tottenham, and Wood Green on the lines of a garden suburb. Of the site 62 acres are allocated for 1,110 working-class dwellings, and 50½ acres will be sold or leased for the erection of better-class houses. The total cost of developing the remainder of the estate under this scheme is estimated at £1,200,000, and the Housing Committee proposes to carry out the work with the greatest possible speed. The accounts of the council's working-class dwellings for the year ended March 31 last show a net surplus of £6,423. The loss on empties was only 1.03 per cent. of the gross rent.

At a meeting of the Birmingham and District Trade Union Industrial Council last Saturday a resolution was passed condemning the policy adopted by the City Council Housing and Town Planning Committee, in connection with the tenders for the building of ninety houses in Cotterill's Lane, Yardley Road, and Belcher's Lane, and expressing the opinion that the action of the contractor whose tender was the lowest in withdrawing in consequence of the unbusinesslike attitude adopted by the committee in requesting builders to revise their tenders, thereby increasing the cost of the houses, was evidence that the committee lacked expert advice. The resolution called upon the committee to convene a conference of building contractors and the representatives of the building trade unions with the view to finding a solution of the problem before proceeding with the schemes in hand for the building of 999 houses on the Pine Apple and Ford House Farms, Yardley Wood and King's Heath Estates.

Standing 250 ft. high, a chimney stack at Northampton, which contained 2,000,000 bricks and took two years to build, was felled on Friday. It was the third highest in the kingdom.

Mr. George Adolphus Storey, R.A., died at his residence in Broadhurst Gardens, Hampstead, yesterday. Mr. Storey became unconscious on Monday, and remained so till death. He was in his 86th year.

The Basingstoke T.C. has approved the plans, prepared by the architect, Mr. J. Arthur Smith, of Messrs. Wallis and Smith, for the housing scheme. The site provides for 209 houses.

The Corporation of London on Monday referred back a scheme for the erection of 15 blocks of dwellings, comprising 208 self-contained tenements and 2,000 houses, at Higham's Park and Chingford, at a cost of £2,135,000.

Stupidly in our notice last week of "Training for England," published by Messrs. Gale and Polden, Ltd., 2, Amen Corner, E.C., the price was given as *ten* instead of *two* shillings. Purely a printer's error, but really Mr. Cooke's excellent book would not have been dear at the bigger figure.

Mr. George Burt, Castle Hill, Rotherfield, Sussex, chairman and governing director of John Mowlem and Co., Ltd., contractors, Grosvenor Road, S.W., who died on April 8, has left a fortune of £173,082 12s. 9d. The testator gives £5,000, the household and personal effects, and during widowhood £4,000 a year, or an annuity of £1,000 should she again marry, to his wife.

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AND ENGINEERING JOURNAL.

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Strand, W.C.2

OUR ILLUSTRATIONS.

New Hotel in the Strand to be erected by Messrs. R. E. Jones, Ltd. Sir Charles T. Ruthen, F.R.I.B.A., Architect.
 La Bibliothèque, Bruges. An etching at the Royal Academy, by Mr. Sidney Tushingham. By permission of Messrs. Connell and Sons.
 Church of St. Jacques, and Old Houses, Lisieux. From a drawing by Mr. H. P. Weaver, R.B.A., A.R.C.A., A.R.W.A.
 Housing of the Working Classes, England and Wales. Home Counties Area, Class A and Class C. Mr. H. W. Horsley, Architect. Plans and elevations.

Corrente Calamo.

Readers and advertisers are asked kindly to note that on September 5 next the publication of THE BUILDING NEWS will be changed back to Friday, as before the war, instead of Wednesday. The alteration from Friday to Wednesday was made then to ensure, as far as might be possible in the congested condition of all means of transit, the receipt of their copies by subscribers in the provinces. The object was achieved, and we are glad to know that readers in nearly every case had no difficulty in obtaining their paper, at any rate, before the expiration of the current week. But the disadvantages of the change were that it has occasionally hindered us from publishing news that ought to have been published, and advertisements which reached us later than 3 p.m. on Tuesday. Now that much more news and many more advertisements reach us later than Wednesday that imperatively claim publication in the same week, we have arranged to revert back to our old day of issue. On and after September 5 next, therefore, the paper will be published at 2 a.m. on Friday mornings, and the latest time for receipt of advertisements will be 3 p.m. on Thursdays.

The Minister of Health has, we are very glad to know, issued a circular to local authorities stating that, with a view to obtaining an immediate increase in the amount of accommodation available to relieve the present overcrowding, he is anxious that local authorities should at once consider the question of utilising the powers to be conferred on them under Clause 12 of the Housing Bill in regard to the conversion of existing houses into flats or tenement dwellings. Under this clause the powers of a local authority to acquire land for the purposes of housing are to be deemed to include power to acquire any estate or interest in any houses which might be made suitable as houses for the working classes together with any lands occupied with such houses, and the local authority are to be empowered to alter, enlarge, repair and improve any such houses or buildings so as to render them in all respects fit for habitation as houses for the working classes. In view of the present needs the Minister is anxious to facili-

tate schemes of conversion under this clause, and he states that such a scheme, when approved by him, will rank for financial assistance as part of the housing scheme of the local authority. With a view to assisting local authorities in the preparation of such schemes (should the circumstances of their district render them practicable or desirable), a manual with regard to schemes of conversion is being prepared and will be issued at a very early date. To secure one of the main objects of these schemes it is essential that they should be put in hand at once, and, pending the issue of the manual, it is desirable that every authority should undertake a survey of their district with a view to ascertaining what property suitable for conversion is available. The Minister issued a series of forms, returnable *within the next fourteen days*. Information with regard to unoccupied houses (which it is suggested should be those to which the local authority should usually direct their first efforts) will no doubt be readily available. If the local authority have information, with regard to other houses which, though occupied, are likely to be readily available for the purposes of conversion, such information may be included in the return. The summary and schedules when completed should be sent to the Housing Commissioner for each district (in London to the London Housing Board), who will be glad to receive any further information which may be helpful to him in dealing with the matter. Every local authority should immediately consider what properties could with advantage be converted into working class flats or tenements, and should, as soon as possible, submit definite proposals to the Housing Commissioner in the manner which will be laid down in the manual.

It is three months since the Chancellor of the Exchequer announced that a Select Committee of the House of Commons was to be appointed to consider what ought to be done about the land values duties which have proved to be unworkable. At last the Committee has actually been appointed, with wide terms of reference. It is to inquire into "the present position of the duties"; to "make recommendation in regard to their retention, alteration, or repeal"; to "inquire into

the basis and present position of the valuation" prescribed by the Finance Act of 1910, while having regard to "the desirability of a State valuation of land being available for all public purposes." We trust the appointment of this Committee heralds the death knell of the duties in their present form. The only one of them that has produced any money is the Mineral Rights Duty, which is really an income-tax. The others have worked more injustice and unsettlement than any legislation we remember, and have enormously intensified the housing difficulty. The ruin of the building trade started four years before the war began, in consequence of the taxes imposed by the pernicious legislation of 1910.

Though he lived to the ripe age of eighty-five, Mr. G. A. Storey was not the oldest of the Royal Academicians, for Mr. Leader is still painting and exhibiting at eighty-eight. Among the forty, indeed, there are quite a number of elderly and old men. Mr. Leslie, for example, is eighty-four, Sir W. B. Richmond 76, Sir Luke Fildes 75, and Mr. Gow, Mr. Graham, Sir David Murray, Mr. Parsons, and Mr. Woods are all over seventy. It is predominantly an Academy of mature years, with Mr. Sims, at forty-six, as its youngest member; and therein is probably to be found the cause of the complaints by the progressives that Burlington House is too unresponsive to the movements in modern art. Among its Associates, however, the Academy includes quite a number of the most brilliant and original artists of the time, and its gates are gradually opening to admit the influences that are keeping British art in touch with developments elsewhere. May they widen wisely but materially.

Mr. Bottomley is still uneasy in his mind because the Poet Laureate failed to invoke his muse on behalf of Peace Day. Whether his regrets are shared by many we cannot say. Of other poetic tributes, none has appealed to us as powerfully as the following in last Saturday's *Country Life*:—

THE PACE-CROSS-DOWN ALONG.
 Eight names be there writ plain in words o' gold—
 An' Liz 'er rades 'en o'er an' o'er again:
 Th' place be quiet like an' Liz be old
 An' most wore out with pain!

Jan, Liz's son, five year ago or more,
 Were poacher, waster, thafe, th' village
 said!
 But Liz—er shook 'er 'ead—an' now 'er's
 sure
 'E's 'ero—is 'er dead!

And us, us giv' our pence to putt a cross
 Out in th' churchyard—"yitty" passon
 'Blowed!
 An', tho' us can't forget our men-folks loss,
 'Us be tremendous proud!

LILLIAN GARY.

It may be that the dear West Country talk still evokes responsive thrills in us, or that the quiet Cornish graveyard and the proud but long-suffering mother are types shrouded in our past memories un-effaced by years of toil and strife; but amid all the evil wrought by the war, and the vulgar riot of the self-seeker and the revolutionary rampant round about us, it is balm of Gilead indeed to cherish such a real War Memorial as the above.

Last Thursday, the *Guardian* reminded us, was the Festival of St. Peter's Chains, in memory of which the church in the Tower, St. Peter ad Vincula, is dedicated, the only church so named in London. Tradition has it that the two chains of St. Peter were brought by the Empress Eudoxia from Jerusalem in 439. One she gave to a church in Constantinople, sending the other to Rome. "The Popes," says Butler, "were accustomed to send the filings as precious relics to devout princes—they were often instruments of miracles—and the Pope himself rasped them off for King Childebert, and enclosed them in a golden key to be hung round the neck. Rome also possessed the chains of St. Paul, which were likewise supposed to have miraculous qualities; but they had no festival. Baronius, who was an authority on Papal relics, wrote:—"Truly the bonds of St. Peter seem, not without reason, to be worshipped, though the bonds of the other Apostles are not: for it is but fit, since he has the chief power in the Church of binding and loosing other men's bonds, that his bonds should be had in honour of all the faithful." The chains of St. Paul, thinks our contemporary, evidently drew what might be called an invidious distinction between those who came in search of filings. Pope Gregory, in promising to send the Empress Constantina some part of this chain, if it were possible to file any off, explained, "For since so many frequently come begging a benediction from the chains, that they may receive a little of the filings thereof, therefore a priest is ready with a file; and when some persons petition for it, presently in a moment something is filed off for them from the chains, but when others petition, though the file be drawn a great while through the chains, yet cannot the least jot be got off." It is within the bounds of possibility that the amount of the honorarium affected the efficiency of the file.

The *Daily Mail*, as we have already announced, is issuing three volumes at 5s. each, containing the reproductions of what we described as "the best plans"

entered in the recent £2,000 architects' competition, arranged by our contemporary for the best designs for ideal workers' homes. The novel feature introduced into the judging of the designs submitted was, that of the seven assessors, three only belonged to the architectural profession, the remainder "being men and women who had studied the question of house-planning from the general social standpoint." The volumes deal separately with three of the areas scheduled—the Northern, the Midland, and the Southern and Midland. None received from the Welsh area obtained a prize. There were 3,500 sets of plans received; and the selection embraces not only the winning plans but others commended by the assessors. Some that were commended are not reproduced. The illustrations are very well reproduced, and the volumes are well worth purchase. How far they will beneficially influence those responsible for schemes in the selection of architects best likely to meet local needs may be a matter of opinion. We criticised and illustrated the three premiated designs in our issue of May 21 last. The comparatively few out of the rest received which are illustrated in the three volumes now published leaves us still unable to say, as we said then, whether there were or were not some better among the great number received.

A pound a week for nothing. The recipe, as a correspondent of the *Liverpool Daily Post* points out, is quite simple. Get a friend to build you a substantial, semi-detached house, replete with labour-saving devices, and with a good-sized allotment garden attached. Cost, £850. Take possession. Your friend wants a fair economic rent of 26s. a week. You tell him you are going to pay him only 6s. a week—not a penny more. To his astonishment, he finds that "the law allows it and the court awards it" (under the terms of the new rehousing scheme). Thus you pocket the difference, 20s. a week for life, at the expense of your friend. It is all so simple. You merely rob Peter to pay Paul; and Peter, being a middle-class man, will bear it all with a patient shrug, and Paul, being a working man, will not even thank Peter, but probably want more.

The tinted Angel of Victory which greeted the King and Queen as they approached the City yesterday week from the western side has been the subject of a good deal of flippant criticism, but, after all, the use of colour is a new and promising sign in London street decoration, and if there was rather too much "rouge," it was only emblematic of the fashion of the day when all the flappers tint themselves in the tubes or on the trams, possibly to match the florid flash of other liberally displayed charms, and, at any rate, it hid the Griffin for the time.

Messrs. Willink and Thicknesse, of Liverpool, have been appointed architects for the proposed new buildings there for Harrods, Ltd.

THE SOCIETY OF ARCHITECTS AND SIR ALFRED MOND.

Last Wednesday's enjoyable gathering at the Restaurant Frascati, enhanced as it was by the informative and gracefully phrased speech of Sir Alfred Mond, the First Commissioner of Works, was, we are encouraged to hope, the first of many red-letter days for architecture and architects. First of all, because in the past it has not been our good fortune, when brought into contact with Ministers of the Crown, to listen to such real and cultured appreciation of architecture and architects, the extent and sincerity of which was evidenced by its interludes of friendly advice and welcome encouragement. *De mortuis nil nisi bonum*, and we therefore will not even name a former First Commissioner of Works whose brutal contempt for art, and all who worked for it, was as notorious as his vulgar insolence to his Sovereign, which John Bright so sternly rebuked at a well-remembered public meeting. Even to-day there are some of us who remember how that gentleman helped to harass one of the greatest of us of his time into his grave, and thankfully contrasted the charm of manner and hearty appreciation of our aims which permeated Sir Alfred Mond's speech from beginning to end with the diatribes we should have had to wince under if, liberated by some power of evil, he had been spirited for half an hour into Sir Alfred's chair. It has been many times said that if we could only have archangels for emperors, then an autocracy would be the best possible form of government. We have no hesitation in declaring that if we could keep Sir Alfred Mond as First Commissioner of Works for the next ten years he would make the best possible Minister of Fine Arts, and might with real benefit combine the two functions. That he may remain where he is, and more power to him, to inculcate some of his less-cultured colleagues with the germs of his own good disposition towards us is, perhaps, the best we can hope for.

But our obligations to Sir Alfred Mond by no means centre round his own goodwill to us. His visit was most auspiciously synchronous with the revival of the desire for unity amongst ourselves, which after all is the most fundamental guarantee of our fitness, and therefore of our right to the better esteem and more complete confidence of the public. The applause that followed the conclusion of the speech by Mr. John W. Simpson, the President of the Royal Institute of British Architects, most emphatically marked the conviction of all who heard him that the Council of the R.I.B.A. really means business this time, and that its President voiced "our unanimous readiness to meet the Society half way." It is true, of course, that not a few of us were present at that dinner of the Society of Architects when Mr. Leonard Stokes and the late Mr. George Bond congratulated each other and their hearers on the prospects of fusion which they had worked so well together to bring about. If, indeed, we get it this time, by the way, let none of us even forget the debt we owe them. They, indeed, "built better than they knew." For, although it was not given to them to see the immediate success of their endeavours, the rebuffs which frustrated fusion for the time disgusted not a few of its more level-headed opponents, and perhaps helped to bring to the coming "great push," so powerful an influence as that of Mr. Simpson.

Let us heartily hope so, anyhow. Faction is too busy to-day in the frantic effort to bring about the discontent and

disunion that will inevitably mean the forfeit of our rights to the prosperity we hoped would follow peace. Let us give our future country, even one example of real union—one proof that it alone guarantees strength, and victory over difficulties. Enough of us have died, and more of us have suffered many things to prove it, may wisdom and goodwill be sufficiently given us to demonstrate the real solution of the problem which, deaf to the calls of patriotism, some are vainly seeking to solve, misled by the anarchist and his dupes.

THE ARTIST ARCHITECT.

The following letter appeared in the *Morning Post* of Monday last:—

Both Sir Alfred Mond and Sir Lionel Earle spoke in eulogistic and complimentary terms at the recent luncheon given by the Society of Architects, and duly reported in your columns on Thursday last, of the results of the establishment in this country by the Society of the first atelier for the instruction of students in the higher principles of architecture, and agreed that the Government should be urged to encourage the system by giving State recognition.

The wonderful exhibition of students' work still on view at the Society's headquarters, 28, Bedford Square, W.C., has resulted in a large number of congratulations as well as applications from various parts of the United Kingdom and recommendations for a similar display of the drawings in the principal cities and towns, which I may say will be acceded to as far as possible. But for the information of those to whom I am unable to reply individually I wish to assure them through your valuable paper that it is the intention of the Society of Architects to take the necessary steps at the earliest moment to place before the Minister of Education a proposition which I hope will result in Government recognition and support, as it is unquestionably in the best interests of the community and of national importance that architecture of outstanding merit should in the future be the rule instead of the exception throughout the country, and it is bound to have a beneficial influence on the temperament of all classes of his Majesty's subjects particularly the workers, whose homes and surroundings should be pleasing to the eye as well as hygienic and comfortable.—Yours, etc.,

EDWIN J. SADGROVE, President.

The Society of Architects.

28, Bedford Square, Aug. 2.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS AND HOUSING IN THE LONDON AREA.

The following nominations have been made by the Central Consultative Board of the Royal Institute of British Architects for various housing schemes in the London area. The Board began its work early in July.

Superintending architect, C. H. B. Quennell, F.R.I.B.A.; executive architects, E. G. Muir, A.R.I.B.A., R. M. Pigott, A.R.I.B.A., and H. F. Murrell, A.R.I.B.A.

Superintending architect, M. S. Briggs, F.R.I.B.A.; executive architects, Anthony Wilson, Lic.R.I.B.A., Joseph Hill, A.R.I.B.A., A. H. Brownrigg, A.R.I.B.A., and Horace Cubitt, A.R.I.B.A.

Superintending architects, J. S. Gibson, F.R.I.B.A. (past vice-president), Maxwell Ayrton, F.R.I.B.A.; executive architects, J. Gordon Allen, A.R.I.B.A., F. Winton Newman, F.R.I.B.A., W. E. Watson, F.R.I.B.A., J. H. Bellfrage, A.R.I.B.A., T. Spencer, A.R.I.B.A., F. Chatterton, F.R.I.B.A., H. J. Birnstingl, A.R.I.B.A., G. Berkley Wills, A.R.I.B.A., J. H. Worthington, A.R.I.B.A., A. J. Healey, A.R.I.B.A., W. S. Grice, A.R.I.B.A., Leslie Moore, A.R.I.B.A., Harold Dicksee, A.R.I.B.A., W. Harding Thompson, A.R.I.B.A., W. G. Newton, A.R.I.B.A., George Nott, A.R.I.B.A., Leslie Glencross, A.R.I.B.A., H. A. Welch, A.R.I.B.A., A. G. R. Mackenzie, A.R.I.B.A., H. J. Chetwood, A.R.I.B.A.

Our Illustrations.

NEW HOTEL IN THE STRAND, W.C.

This new hotel and restaurant is to be erected upon the site now occupied by Terry's Theatre and adjoining premises, for Messrs. R. E. Jones, Ltd., the well-known provincial caterers. The facade between the ground and second floor levels will consist of grey unpolished granite, the large openings being fitted with specially-designed metal frames. Above the second floor level white Carrara will be used, with bronze bases and capitals to the columns and pilasters. The general scheme provides for the liberal use of wrought iron work in balustrading and balconies. A fine marble restaurant is to be provided in the basement, ground floor and first floor, and the second floor is to contain the reception rooms and other accommodation for hotel residents. The upper floors are to contain several hundred bedrooms, which, together with bathroom and lavatory accommodation, will be fitted upon most modern and sumptuous lines. A large roof café and music room is also to be provided, and it is intended to make this one of the great features of this new hotel. The architect is Sir Charles T. Ruthen, F.R.I.B.A., 33, Farnival Street, Holborn Bars, E.C.4.

LA BIBLIOTHEQUE, BRUGES.

What is now La Bibliothèque, Bruges, was formerly the ancient Tonlieu (Market-toll or Custom House) built in 1477, and restored by L. de la Censerie (1877-81). It contains 60,000 vols., nearly 600 old MSS. (including missals of the 13th-14th century), and the first books printed by Colard Mansion, the printer of Bruges (1475-84). Our illustration is reproduced from a very delicate and charming etching shown at the Royal Academy, exhibited this year by Mr. Sidney Tushingham. Our reproduction was made by the permission of Messrs. Connell and Sons, of Bond Street, the publishers of the plate.

CHURCH OF ST. JACQUES, LISIEUX.

This picture is a reproduction from a charming water-colour by Mr. Herbert P. Weaver, R.E.A., A.R.C.A., A.R.W.A. It represents the old church of Saint Jacques in Lisieux, Normandy, and is a fine specimen of fifteenth-century architecture. The tower has not been completed for some reason or other. Old timber houses are seen on the right, which are curious and interesting, massive, and picturesque.

HOUSING OF THE WORKING CLASSES: ENGLAND AND WALES. HOME COUNTIES AREA.

This pair of sheets show the designs made by Mr. H. W. Horsley, of Norfolk Street, Strand, for the cottages in Classes A and C in the Local Government Board competitions held under the auspices of the R.I.B.A., 1918. The plans are so clearly defined in our illustrations that no description appears necessary. Our review of the competition plans when they were on view at Conduit Street appeared in *THE BUILDING NEWS* for March 27 last year. Many of the prize designs for the several areas will be found in our issues of the following dates: April 10, 17, and 24; May 1, 8, 15, 22, and 28; June 5, 12, 19, and 26.

As a war memorial, a group of statuary is to be placed in front of the Clacton-on-Sea proposed new municipal buildings.

THE NEW ARCHITECT FOR THE LONDON COUNTY COUNCIL.

As we announced last week, Mr. George Topham Forrest, F.R.I.B.A., F.G.S., was yesterday week appointed architect to the London County Council and Superintendent of Metropolitan Buildings. The following is the report in the *Times* of 30th ult. of his election:—

"At the meeting of the London County Council which was held yesterday, a discussion arose out of the recommendation of the General Purposes Committee that Mr. G. T. Forrest, F.R.I.B.A., the county architect of Essex, should be appointed architect to the Council and superintending architect of Metropolitan buildings, in succession to Mr. Riley, at a salary of £2,000 a year (based on present economic conditions).

"Mr. Snell thought that a member of the staff should succeed to the position. He had not learnt that any attempt had been made to find out whether in the Architects' Department there was any man capable of taking the position. Of the three who applied not one was seen by the committee of selection or given any chance of putting their qualifications before the Council.

"The Rev. Stewart Headlam moved that the matter be referred back, and Mr. George Dew seconded.

"The Rev. J. Scott Lidgett said that he had noticed a loftily worded letter in the *Times* that day, signed by Sir Aston Webb and by Sir John Simpson, calling attention to the imperfection of the choice which the committee had made in its recommendation. He stood in awe of men of the professional eminence of Sir Aston Webb, and of his distinguished colleague, but when he looked and found that they recommended the second candidate and not the first, he was bound to say the weight of that letter entirely disappeared, for although he was not a professional man himself, he did claim to have some common sense in comparing qualifications.

"Mr. Bernard Holland said if the matter was referred back they might not get an architect before Christmas.

"The amendment was lost. Mr. G. T. Forrest was afterwards called into the room and informed of his appointment.

"The General Purposes Committee also recommended the appointment of Mr. J. P. Orr, Indian Civil Service, as director of housing, at a salary of £2,000 a year, but consideration of the report of the committee on the matter was deferred until after the summer recess."

THE SOCIETY OF ARCHITECTS' LUNCHEON TO SIR ALFRED MOND.

The first of a series of social gatherings organised under the auspices of the Society of Architects in relation to the education and training of architects and the question of statutory registration was held last Wednesday, when Sir Alfred Mond, First Commissioner of Works, was the guest of the Society at luncheon at the Restaurant Frascati. Mr. Edwin J. Sadgrove, President of the Society, occupied the chair.

The Chairman, in proposing Sir Alfred Mond's health, referred to the repeated warnings of Cabinet Ministers with reference to Labour, and in particular to the appeal of the King the previous day, which, in effect, emphasised the necessity of every man in every trade and profession working harder than ever and producing more than ever they did before. The architectural profession had been deeply concerned for some years at the diminution of output on the part of Labour in the building industry, which in its present accentuated form, together with the high cost of materials, had made private building enterprise practically prohibitive. To search for the origin of the trouble and to endeavour to find a remedy a Building Industries Consultative Board had been set up, composed of architects, surveyors, building constructors, and representatives of Labour, and he had reason to hope that something really good would come out of it. He would like to see such a Board established as a permanent institution for the settlement of all disputes in

the building trade. The Office of Works was the largest architectural department in the kingdom. It was of national importance that our cities, towns, and villages should be properly laid out. This could be done by the employment of qualified architects, but so long as the present conditions prevailed, whereby any individual could call himself an architect and practise as such, so long would the present unsatisfactory state of affairs continue. Recognition by the State, through legislation, was the only means of stopping this anomaly.

Sir Alfred Mond (First Commissioner of Works) in his interesting speech in reply, said that the statutory registration of architects was a matter of great importance. The position of the architect was not sufficiently recognised. He thought we were at a period of great architectural renaissance, and the recognition of the architect's importance as the beautifier of our common life was becoming more obvious every day. "The day of the builder has passed, and the day of the architect has arrived." The whole world now craved for something better than rows of ugly houses in mean streets. State aid for architectural education was a matter that the Minister of Education might take into consideration.

Speaking of the cost of building, he said it could not be in the interest of the building trade to raise prices so high that building would become impossible. Modern methods of construction—i.e., the use of concrete—must be experimented with. We could not remain satisfied with the fact that some branches of the building, such as bricklaying, had remained technically almost stationary for many centuries. He thought we could learn a good deal from America in planning and construction of big buildings. There was no city where ground space was so recklessly wasted as in London. He pointed out that in America one could see railway stations of such magnificence that one did not know whether one was entering a new cathedral or a ticket-office. It was said that five million dollars had been spent on one terminus in New York.

Beauty was not a question of expense at all, but one of proportion and design. A great deal of most expensive work that one saw was extremely ugly. One of the greatest curses of this country was the so-called decorative attempts, which consisted of applying to a building all kinds of motives which did not belong to it. He hoped that the authorities would apply to trained architects when they were planning their new housing schemes. People undervalued altogether the effect of beauty on the human spirit. A good deal of unrest is due to the amount of ugliness in the world. Beauty meant satisfaction and contentment.

Sir Alfred Mond said he was interested in the Society of Architects' movement in architectural education here on the lines of the Ecole des Beaux Arts at Paris. France had benefited directly, and this country indirectly, by the training given at the Ecole des Beaux Arts, and he looked forward to the introduction here of similar training conditions. He wished all success to such educational schemes. Ugliness in the world had long enough bred discontent and strife; to higher ideals we must look, which would bring solid satisfaction and happiness.

Mr. Arthur Davis, F.R.I.B.A., who supported the toast of the health of Sir Alfred Mond, said he thought the atelier system had come to stay. Architectural education here, Mr. Davis contended, does not follow a systematic plan, as in France, where there is also an extremely difficult competitive examination, designed to select for the profession only those who have special talent for it. He pointed out that in America architectural education is largely founded upon Beaux Arts principles.

UNITY OF THE PROFESSION.

The toast "The Society of Architects and its President," was proposed by Mr. John W. Simpson (President of the R.I.B.A.), and supported by Sir Lionel Earle.

Mr. Simpson expressed his pleasure on being there that day to share the welcome to Sir Alfred Mond. The Royal Institute of British

Architects had been animated by a sincere desire to help the Government and the country to the uttermost in the enterprises to which the outbreak of the war had committed us. There had been a time when the absence of the President of the R.I.B.A. from such a gathering as that all had enjoyed would have been noticed and commented on. That time, he hoped and believed, happily had passed, and he found himself there that day with pleasure, and in agreement with all that the President of the Society of Architects had said about the consolidation of the profession. All wished the advancement of their art. Their aims were identical, and there should be no difficulty in giving effect to them. Ten years ago a similar effort had been made to unite the two societies, but it had broken through. Perhaps the time was not ripe; perhaps all had been going ahead too fast, or growing old. To-day the aspect of affairs had altered. We had to fight for our existence as a nation, and we had no time to waste on internal differences. His message to all there to-day from the Council of the Royal Institute of British Architects to the Society of Architects was that, if animated by the same virtues, the Institute was ready to meet the Society half way. (Loud applause.)

The President of the Society of Architects expressed his deep satisfaction with the sentiments embodied in the speech of the President of the R.I.B.A., and his earnest hope that it might herald real unity, and its resultant inestimable advantages to the profession and the public.

During the afternoon the guests and members inspected an exhibit of students' work from the Ecole des Beaux Arts, Paris, at the Society of Architects' premises in Bedford Square, and Mr. Arthur Davis, the Patron of the First Atelier of Architecture in London, explained the Beaux Arts method of architectural education.

THE NEW ATELIER AT MELBOURNE UNIVERSITY.

The opening of the new atelier building at the Melbourne University by Sir John Grice, vice-chancellor, on May 16, marked the commencement of better days for the training of the young architects of Victoria. The new building has been completed from the design of Mr. Gordon Sullivan, A.R.V.I.A., who won the competition held last year. The building has cost about £650 and is built of brick and roofed with tiles. It is free from ornamentation, and when furnished with drawing tables and provided with some drawings to clothe the walls, will form a very suitable building for its purpose.

Before the opening by Sir John Grice, the visitors, consisting chiefly of architects and architectural students undergoing the diploma course in architecture at the University, met in the lecture room of the engineering school, where a meeting took place, presided over by Mr. Frank Stapley, president of the R.V.I.A. In introducing Sir John Grice, Mr. Stapley said that the Institute was glad to be associated with the University in this excellent movement for raising the standard of architecture. At present any "Dick, Tom, or Harry, or Chinaman," could call himself an architect. The Institute had asked the Ministry to bring in a Bill for the registration of architects. If they could secure that and the establishment of a Chair of Architecture, the profession would take its proper place. He hoped that in any large engineering work of the future, such as the proposed bridge over the Yarra, architects, as well as engineers, would be consulted, so that the work might be made a thing of beauty as well as a utilitarian joy for ever.

Sir John Grice, when introduced, said: "I feel sure that before long the time will come when the Government of this State will recognise more fully than in the past the value of university education. The Ministry showed that it had begun to recognise this by the liberal action on the part of the Premier in granting the most liberal reply that we have ever received to requests of assistance for the University. I think that this foreshadows very good things for the University. I think

that we can look forward to seeing, before many years, a Chair and a Degree of Architecture."

The speaker went on to say that when the proposal came before the University Council they had an explanation from the lecturer in architecture, and—better still—a guarantee of the interest on the cost for a certain number of years from the Institute of Architects. They had present Mr. A. M. Henderson, the "father of architecture" at the University, who had been lecturer or honorary lecturer on the subject for thirty years. (Applause.)

Sir John Grice then traced the history of the Architecture course at the University, and stated that its present development was largely due to a movement set on foot in 1913 by Arthur Williams, a student under Mr. Henderson. Williams got many young draughtsmen working in the architectural offices to attend the University course. He and thirty others enlisted for active service, and Williams, unfortunately, was killed. There were now, however, between thirty and forty students, and others were returning from abroad. In 1914 the University Council asked the State for £1,000 a year to establish a Chair of Architecture, and as late as November, 1918, had again affirmed the need for this chair. They had not included this amongst their requests to the Premier, a fact which he regretted, because the Council considered it unwise to ask for too many things. The atelier would be run on the lines of the famous Paris "Atelier," and would provide a kind of post-graduate course. Difficult problems in design and construction would be submitted to the students, and he understood that leading architects would give students the benefit of their ripe experience. Sir John Grice also referred to the work done for the Architectural course by Professor Payne.

Mr. A. M. Henderson said that architecture had for many years been the Cinderella of the University.

The lecturer in Architecture (Mr. Alsop) said that the main object of the atelier was to encourage young architects to realise the responsibility they owed to future generations in the way of erecting buildings which strove at least to embody an ideal.

Sir John Grice then formally opened the new atelier.

OBITUARY.

We only had time last week, just as we went to press for the briefest announcement of the death of Mr. George Adolphus Storey, R.A., which occurred the same morning at his residence in Broadhurst Gardens, Hampstead. The son of James Payne Storey, he was born in London in 1834. Although he exhibited his first picture at the Royal Academy in 1852, and as for more than 40 years after 1860 he was a constant exhibitor, he had reached his eightieth year before he was elected a full R.A., though he had been an Associate for very many years. The main reason probably was, as the *Times* suggests, that he never quite fulfilled the considerable promise shown in his early Pre-Raphaelite stage; for at the time when he painted "The Bride's Burial," and a few pictures of the same class, away back in the fifties, there were many people who saw in him a possible rival to the young Millais. In his reminiscences which he published in 1899, under the name of "Sketches from Memory," he gave as a sufficient reason for his change of style and subject that he had to live, and Pre-Raphaelitism did not pay. So, after his return from Spain in 1863, he frankly allied himself to a group then known as "the St. John's Wood School"—men like J. E. Hodgson, Yeames, and Calderon; men who painted what were called historical genre pictures—that is to say, scenes of domestic life, with the characters arrayed in Tudor and other fancy costumes. In the Academy of 1914 he had no fewer than five pictures. His best known works are portraits or figure pictures. He himself considered his finest work to be the portrait of his mother, which is now in the Tate Gallery. He was buried on Friday last at Hampstead Cemetery.

AN AMERICAN ART SERVICE LEAGUE.

The artistic resources of this country and of America never have been organised on a basis which permitted the workers in them to do the most effective labour nor to impress upon the public consciousness any true sense of their extent and value. On the theory that the only way to begin is to begin, and the only time is now, the artists in and around Chicago have formed an organisation which they hope may prove of some practical avail. At least it will be a nucleus from which something may develop if the artists demonstrate intelligence and vigour in their organisation. This is reported by Karleton Hackett in the *Chicago Evening Post*.

During the war the painters, draughtsmen, and cartoonists were formed into an organisation to perform certain war work for the United States Government, which was called the division of pictorial publicity. It was a patriotic service without remuneration, but the individuals, held together by this common band of loyalty, felt themselves so strengthened in their labours by the sense of service and by the consciousness that a strong organisation was back of them that when their organisation was disbanded by the Government at the close of active hostilities they felt it would be wrong that the fruits of so much labour should be permitted to vanish. It seemed an economic waste. Also, if they had a function to perform in war time, and they had proved that they had, it seemed as though they ought to have a still more important function to perform in the normal times of peace.

Therefore, before disbanding they determined to make an effort to see if a permanent peace-time organisation might not be formed which would bring in all the arts, so that they might gain the strength which comes from co-operation and centrally directed labour.

The arts need a sort of clearing-house where the layman may go for practical assistance in his artistic needs. At present no such organisation exists. If a business house wishes some high-class advertising matter, some special posters, a band for a celebration and information as to the forming of a chorus from among its employees—and such demands are arising every day—there is no central bureau where men whose profession it is to supply these various wants may be reached.

The Art Service League proposes to establish just such a practical clearing-house, so that there shall be a place where any person or organisation may get in touch with experts in any department of art. The league is composed of five divisions—the pictorial publicity men, including painters, draughtsmen, cartoonists and sketchers of all degrees of artistic standards: architects, sculptors, musicians, and writers.

If a community should desire to celebrate some great event with triumphal arches and all other proper appurtenances, with sculptured and painted decorations, bands, choruses and special songs with words for the occasion set to music and arranged for performance, the Art Service League would be prepared to undertake the whole job. It might even succeed in convincing the committee previously having the matter in charge that the plans they had half decided on would be artistically ineffective, impracticable, and ridiculously extravagant. Convincing a committee of laymen of these elemental facts, until the show was all over and the bills had to be paid, might at first be quite out of the question, at least, according to past experience, but something might be done in time.

"Our system," says Mr. Hackett, "has been to do everything in a rush at the last moment, with 'hang the expense' for a motto, but we are gradually learning something, and for years to come our taxes will be eloquent. Every other nation which pretends to civilisation, save only England and the United States, has found the economic value of organising its artistic resources on a practical basis as a business asset. There are many indications that while the United States, as a nation, may not yet be ready to tackle the problem, the individuals are waking up to its importance. We have a

long way to travel, consequently it is all the more important that we should get started. The Art Service League may not do much—this remains to be seen—but it will do something, and its efforts deserve encouragement."

MAKING FACTORY ROOF TIMBERS LAST LONGER.

Although there is scant information on the service and cost of treated roof timbers in cotton mills, paper mills, and other buildings where high humidity causes rapid decay, a number of preservative treatments which it will undoubtedly pay to use may be suggested, several of which follow.

The steeping process consists merely in soaking the timber in a water solution of a preservative such as zinc chloride, sodium fluoride, or mercuric chloride. The wood must be thoroughly seasoned. It is left in the solution one day for each inch in thickness and one additional day. After treatment, the timber should be air-dried before using. Zinc chloride attacks lead paints, but is very desirable otherwise. Mercuric chloride is very effective but is poisonous and has a decided corrosive action on steel, so that steel tanks cannot be used with it. Sodium fluoride does not attack paint, is not corrosive, and in most other respects is very desirable.

Timbers may be coated with coal tar creosote by a brush treatment, by dipping in hot oil for five to fifteen minutes, or the hot and cold bath method. This last method consists in submerging the lumber in hot oil for several hours and then either allowing the oil to cool down slowly with the wood in it or plunging the wood into cool oil and leaving it for several hours.

Coal tar creosote is objected to by some insurance companies as a fire hazard, but whether or not it really does add greatly to the inflammability of wood is a debatable question. The odour of creosote may be objectionable in food storage rooms, but is not usually displeasing to workmen. Creosoted wood cannot be painted over successfully because the oil quickly comes through the paint and discolours it.

Although pressure treatments are the most expensive, they are the most effective because they result in the greatest absorption and penetration of preservative. Roof planking should receive 8 to 12 lb. of creosote per cu. ft., or $\frac{1}{2}$ lb. of the salt if zinc chloride is used. Such treatment should add at least 20 years to the life of roof plank.

The effectiveness of treating timber depends upon maintaining a complete envelope of treated wood around the untreated interior of the piece. If this treated layer is broken through decay can enter and destroy the untreated interior in spite of the treated outer layer. For this reason lumber should be cut to final dimensions before treatment. Whenever it becomes necessary to cut into treated timber the untreated wood exposed by cutting should be given two brush coats of creosote or some other preservative.—*Building Age* (New York).

COMPETITIONS.

BOOTLE HOUSING COMPETITION.—The Competitions Committee of the Royal Institute of British Architects requests Members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute regulations for architectural competitions. The committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

ST. PANCAS HOUSING SCHEME.—In a limited competition for workmen's dwellings, consisting of blocks of flats, in the Prince of Wales' Road, Kentish Town, N.W., Mr. Harry Redfern, F.R.I.B.A., the assessor, placed the designs of Messrs. H. V. Ashlev and Winton Newman, F.F.I.B.A., of 14, Gray's Inn Square, Holborn, W.C., first. The remaining competing architects were Mr. Geoffrey Lucas, F.R.I.B.A.; Mr. Alfred Cox, F.R.I.B.A.; Mr. A. J. Healey, F.R.I.B.A.; and Mr. L. Barrett, A.R.I.B.A.

HISTORY OF THE LAND TAXES.*

By D. K.

A short history of the Land Taxes contained in Part I. of the Finance Act, 1909-10, may prove of interest at this very important moment when their future is about to be flung into the melting-pot of a Parliamentary Committee. It is manifestly well within the bounds of possibility that this may prove to be an obituary notice, in which event it would be to our everlasting regret if the passing of the famous new Domesday Book, which was the means of bringing the Land Union into being, was allowed to take place without reference to the part it has taken in helping to make history during the last ten years.

The Land Taxes were the result of a diligent effort on the part of the Taxation of Land Values Group in the House of Commons who, by utilising the desire among the public for certain social reforms, and advocating that they should be paid for out of the pockets of the property-owning class by means primarily of the Taxation of Land Values, and eventually of the Single Tax, created a demand for their policy to be put into operation.

In November, 1908, the Taxation of Land Values Parliamentary Committee promoted a petition to the Government asking that a beginning should be made with the Taxation of Land Values in the next Budget. The Government's reply to this petition was embodied in the Land Clauses of Mr. Lloyd George's famous Budget, 1909-10, and led to one of the most severe political fights of modern times.

It was on April 29, 1909, that Mr. Lloyd George introduced in his Budget statement the question of the Taxation of Land Values, paving the way for the notorious Increment Value Duty, Undeveloped Land Duty, Reversion Duty, and Mineral Rights Duty.

To collect these taxes a valuation was to be made of all the land in the United Kingdom, every occupation being separately valued. The five values to be ascertained were known as Gross Value, Total Value, Full Site Value, Assessable Site Value, and Agricultural Value.

Many supporters of this policy being led by political propagandists to believe that an attack on land would be instituted only against certain individuals popularly referred to as "Dukes," were carried away with enthusiasm for a measure which in their ignorance they believed would not affect them. Their joy, however, was short-lived, and some enthusiasts early in the campaign became suspicious when they realised that land included buildings, and that the so-called "Dukes" would form but a small proportion of those attacked. These suspicions were well grounded, as future events so clearly proved.

It is interesting here to note that one of the first to record his disapproval of the new Land Taxes was Mr. John Redmond, leader of the Irish Nationalist Party in the House of Commons. His words leave no loophole for misunderstanding the attitude of the Irish Party at that time, for on the same day that Mr. Lloyd George introduced the Budget, Mr. Redmond said in the House: "I have risen for the purpose of at once declaring, so far as this Budget is concerned, that the Government must expect to meet the vigorous opposition of the Irish party. . . . I content myself on this occasion by saying most emphatically and clearly that, so far as we are concerned, as this Budget imposes additional and unjust taxation upon Ireland, we shall oppose it on every possible opportunity."

The Budget, as a whole, was condemned freely in the House by members of all parties, but many on the Liberal side hailed it as a strategic move for an attack upon the power of the House of Lords, and its advantages from this point of view seemed to have dawned later upon Mr. Redmond. The Nationalists voted against the second reading of the Bill, which was carried by 366 to 209 votes. At the third reading, which was carried on November 4 by 230 votes, they abstained from voting. The debates on the Land Taxes were continued all through the summer and autumn of 1909, nearly every clause being censured.

* *Land Union Journal*.

The Bill was then sent to the House of Lords, where it met with no cordial reception. On the motion for the second reading on November 30, an amendment proposed by Lord Lansdowne, "that this House is not justified in giving its consent to the Bill until it has been submitted to the judgment of the country," was carried by 350 votes to 75. The Commons responded by a resolution passed to the effect that, as this was a Finance Bill, the action of the Lords was a "breach of the Constitution, and a usurpation of the rights of the Commons." The dissolution of Parliament on January 10, 1910, was the outcome of the crisis.

Unfortunately the opponents of the taxes were not ready for a General Election. They had fought well in the House against the land taxes, and to protect property owners, but, owing to the difficulty of grasping the details of the scheme, they had not been able to educate the electorate and teach them the true inwardness of Mr. Lloyd George's proposals, and, though the taxation of land was a popular plank on every Radical platform at election meetings, the question, with a few notable exceptions, was approached in only a half-hearted manner by the opposing candidates and their supporters. Property owners themselves did not fully grasp the situation, and in their quite unorganised condition were powerless to stem the tide of Radical oratory and misstatement on the subject.

In the General Election of January, 1910, 229 Conservatives, 44 Liberal Unionists, 275 Liberals, 40 Labour members, and 32 Nationalists were returned, a majority against the Conservatives of 124. Had the Nationalists pursued their policy in the previous House of Commons of voting against the Budget, there would now have been a majority against it, but Mr. Redmond looked ahead. It was no secret that the Irish Nationalist party were anxious to introduce a Home Rule Bill, which would have some prospect of support in the House. Here was their opportunity. Get rid of the Veto of the House of Lords, bring in a Home Rule Bill, and buy the support of the Liberal Party by abstaining from voting against the Budget! Could anything be simpler? On April 1, 1910, Mr. Redmond said in the House of Commons, "rightly or wrongly, we regard the merits or demerits of this particular Budget as trivial compared with the issue of the abolition of the Veto in the House of Lords. . . . Now I feel, under the circumstances in which we are standing at this moment, that, after the declaration of the Prime Minister on Thursday last, to defeat the Budget now would be to use it, not as a weapon against the House of Lords, but in aid of the House of Lords, and against the abolition of the Veto. My colleagues take the view that the abolition of the Veto means the concession of Home Rule for Ireland. This is the view put forward by the Government. There is no concealment about it." It was for Mr. Redmond to say: "No Veto, no Budget," and he said it, quite plainly and emphatically. The Nationalist members therefore supported the Government, and the Finance Bill passed through on April 23. The sequel was the passing of the Parliament Act, which, in addition to other disabilities, deprived the House of Lords of all power to deal with money Bills, and so prepared the way for the Government Home Rule Bill of 1912.

It is unnecessary here to quote the well-known memorial, signed by 73 members of the House of Commons and presented to Mr. Asquith and Mr. Lloyd George, expressing the appreciation of the Land Values Group in placing upon the Statute Book the principle of the separate valuation of land, and urging the speeding up of its completion, so that local authorities could be empowered to levy rates on the basis of the valuation.

The main object of the valuation was to separate, for the purposes of taxation, (a) the "total value" of land, or the value with every improvement upon it as on April 30, 1909, and (b) the "site value," which was supposed to be the unimproved value of the

bare land. Now, a straightforward valuation of all the land in the United Kingdom as at a certain date would be a herculean task for the initiated, but with the additional complication of the intricate rules and definitions embodied in the Act, it was acknowledged by all thinking people to be an impossible task to impose upon even such a capable body of men as those who composed the Valuation Department of the Commissioners of Inland Revenue. It was pointed out to the Government time after time, both in the House and out of it, that the valuation when completed, if such a task were possible, could be of no value for any purpose whatever, except for raising the fantastic duties on land to which Mr. Lloyd George was wedded. But, in spite of memorials and deputations from all the leading institutions and societies connected with land and its administration protesting against this inquisition, and warning the Government of the danger to land development, it was proceeded with, and copies of Form IV., to be filled in by property owners with all the details of their properties according to their various holdings, were served by the million. Having obtained these particulars, the country was then overrun with Government valuers, and in a short time provisional valuations began to pour in upon owners. Only 60 days were allowed under the Act in which to object to them, and if not objected to within this period they became final for all time as the basis of taxation.

It was not long before it was realised that the meaning of several sections of the Act was obscure, and the most eminent surveyors and lawyers were unable to construe them. Further, the manner in which these taxes were being levied, based on the calculations of Government valuers who had little or no idea of how to interpret the Act, gave cause for much dissatisfaction and alarm in the country. Apart from the difficulty in construing the Act, it was soon found that the scheme underlying it did not lend itself to a uniform valuation of all land and houses in the country. Under its various clauses no less than five different principal values had to be ascertained, and, as many of these were entirely new, and were not, in fact, valuations at all, but merely estimates of value under hypothetical circumstances, it was only natural that these estimates should vary to an alarming degree. The situation reached a point of absurdity when it was discovered that it was possible for two adjacent and absolutely similar houses in a row or terrace to be entered in the new Domesday Book at different values, owing to the owner of one objecting to the original valuation, and substituting an amended figure, while the owner of the other, either from carelessness or negligence on the part of his agent or himself, failed to object. The two different values thus obtained remain fixed for all time.

A further weakness in the administration of the Act was caused by the decision of the Commissioners of Inland Revenue, for reasons best known to themselves, that the various deductions which could be made in arriving at site value were not statutory deductions, but had to be claimed by owners. It naturally followed that in the valuations which were allowed to pass no such deductions were shown, while in those to which objection was taken deductions were claimed and allowed, thus rendering the valuation entirely unreliable as a basis for taxation.

It was at this critical moment that the Land Union, under the presidency of the Right Hon. E. G. Pretyman, M.P., was called into being, and attracted to its membership some of the most able professional men in the country. Its principal object was to agitate for the repeal of the unjust and oppressive system of taxation imposed on land, buildings, and house property, as being disastrous to the credit of this great security; but it existed also to give help and advice to its members, and to fight test cases in the Courts where questions of principle in the application of the Act were involved. As will be shown presently, it did most valuable work in all these different spheres of activity.

In order that the valuation might proceed, it was inevitable that the Commissioners of Inland Revenue should set their own interpreta-

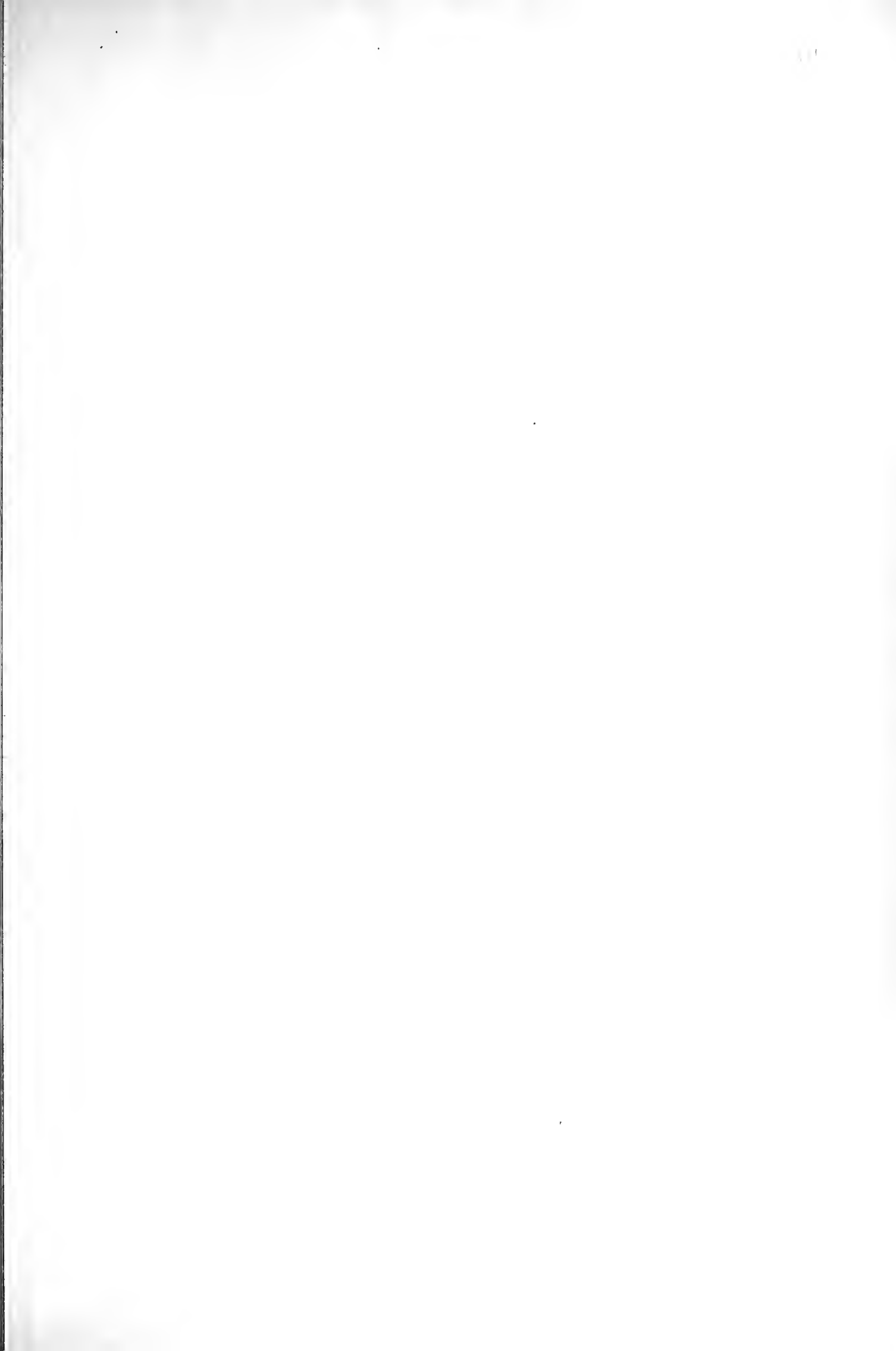
tion upon the Act, which interpretation did not long pass unchallenged. One of the first cases taken to the Courts by the Land Union which seriously affected the valuation was known as the Deptford case, *Whidborne v. The Commissioners of Inland Revenue*. This case contained two appeals, one against the site value in the provisional valuation, the other against the refusal of the Commissioners to allow a sufficient deduction from that part of the total value which was attributable to the development of the estate by the owners, the giving up of land for roads, works executed, and expenditure of a capital nature. The owners contended that the deductions should be dealt with together, owing to the difficulty in separating the values attributable to each part of the operation when the work had been completed. The Commissioners claimed that the values attributable should be set out and proved separately. The appellant claimed that a deduction of £49 10s. should be allowed for capital expenditure and the appropriation of land for streets, the Commissioners agreeing to allow a deduction of £16 only as part of the total value attributable to roads, etc. Mr. Kingston, for the Commissioners, submitted that there could be no value attributable to appropriation of land for roads on this occasion. The Referee decided that a deduction of £58 10s. 8d. be allowed for the joint deduction for works executed, capital expenditure, and appropriation of land for streets, roads, etc. The Commissioners appealed against this decision, and the case was heard by Mr. Justice Rowlatt, who dismissed the appeal, with costs, stating that he could find no reason why the two elements should not be taken together, when, in fact, the two operations had been completed. In his opinion, the appropriation of land for streets and roads did, in fact, give value to the remaining land.

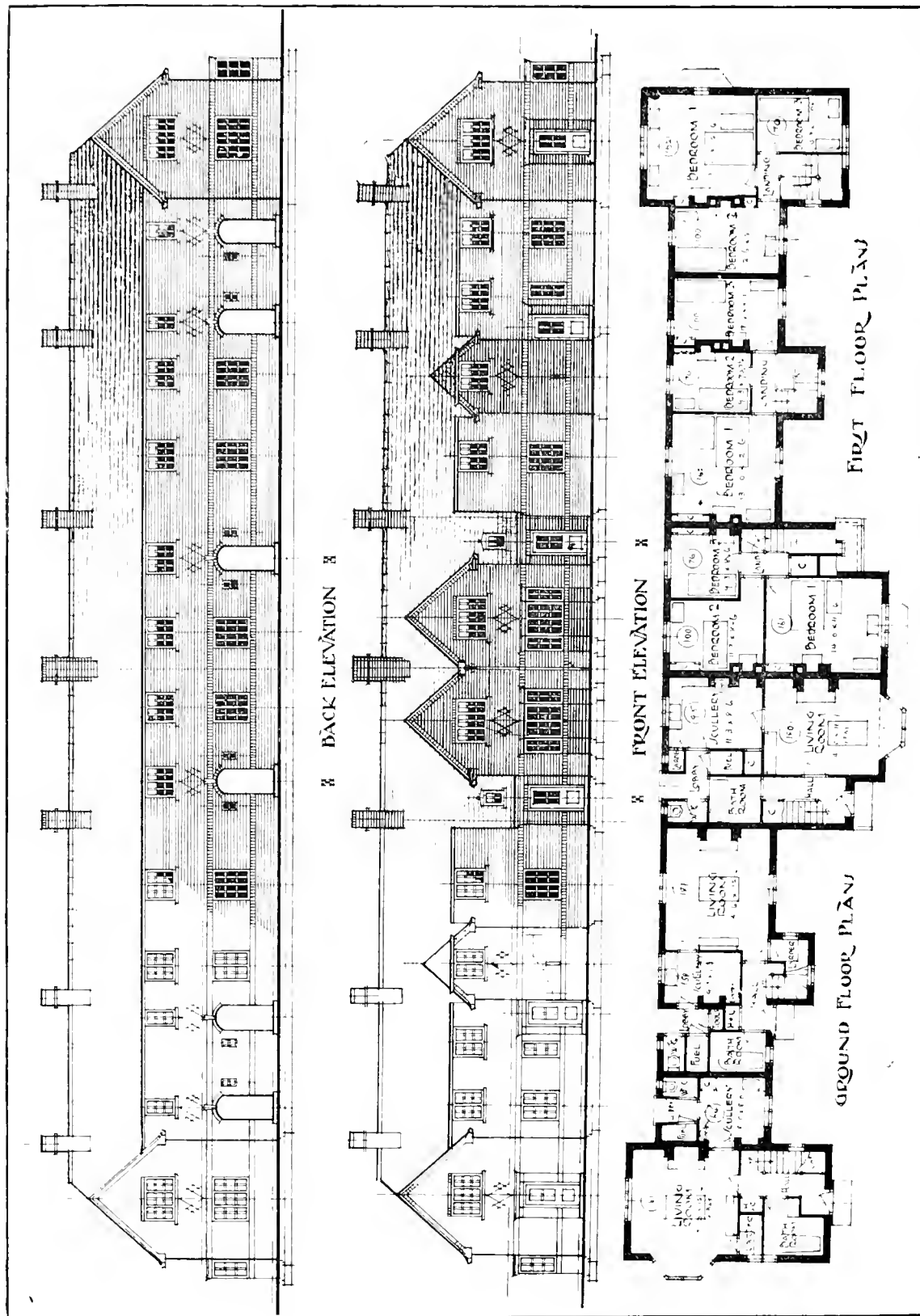
The obvious result of this judgment, so far as it has been decided by the Courts—and it is significant that the Commissioners of Inland Revenue have not appealed against it—is that the majority of the valuations made by the Valuation Department and affected by this decision have not been made in accordance with the Act, and are therefore of no value whatever, the reason being that the Government valuers have not themselves made the necessary deductions, and did not allow it in cases in which it had previously been claimed.

Two cases of great importance fought by the Land Union on points raised by Mr. Edwin Savill, a member of its Council, and which are generally taken together, are *Dame Emily Smyth v. The Commissioners of Inland Revenue* (known as the Norton Malreward case) and *Hunter v. The Commissioners of Inland Revenue* (known as the Chells case). They were fought to test the question whether the Commissioners were carrying out the valuation of agricultural land in accordance with the Act. The referee, in each case, after hearing the evidence of leading agricultural experts, decided that the interpretation of the Act as taken by the Commissioners was erroneous. The subject was then raised in Parliament, and it was suggested that the valuation of agricultural land should be suspended pending the decision of the various points in the High Court. This request was not complied with, and valuations of agricultural land were hurried forward. The Norton Malreward case was heard in the High Court by Mr. Justice Scrutton on February 23, 24, and 28, 1914, and the Chells case on February 24, 25, and 28. The questions to be determined by the court were:—

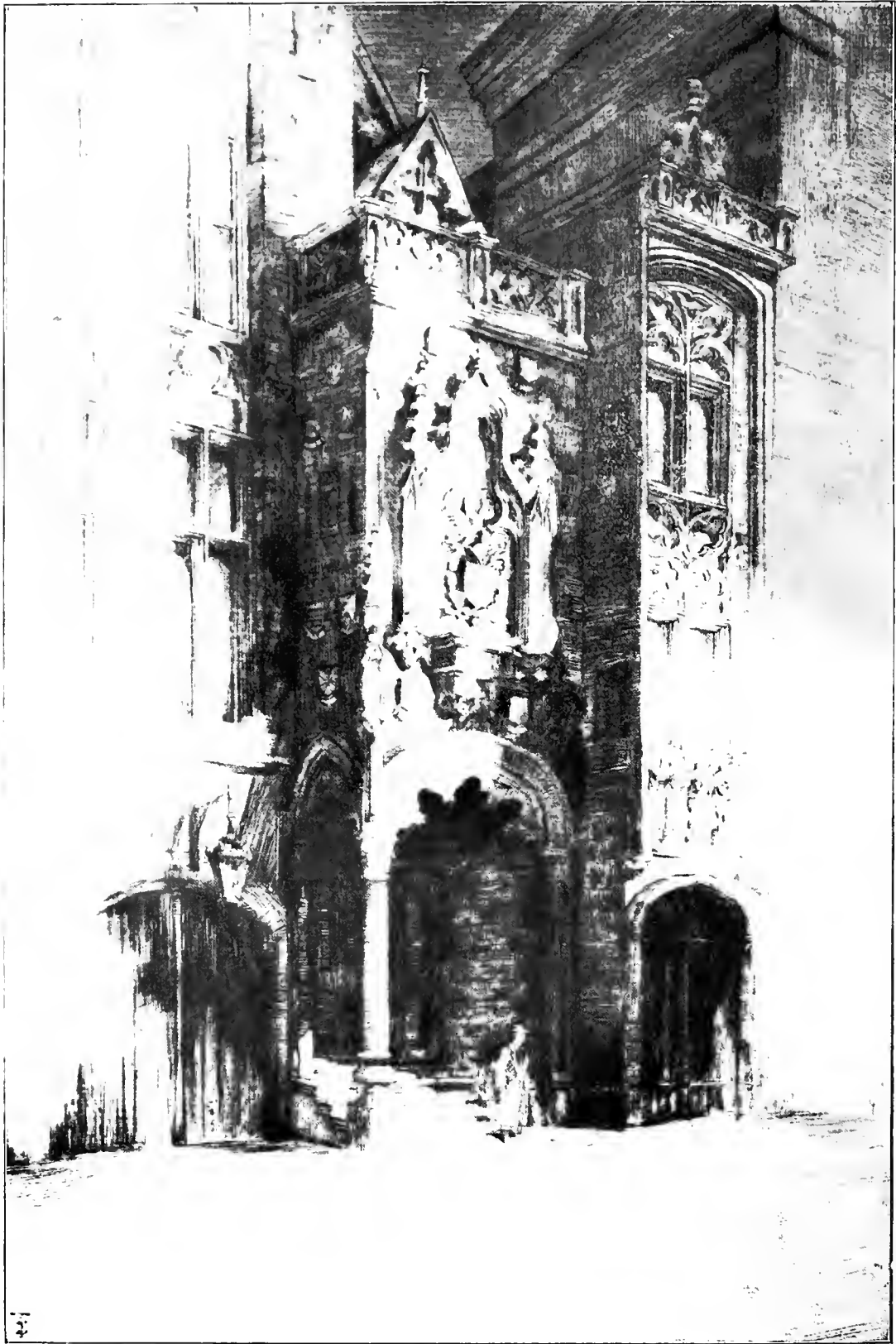
1. Whether, in ascertaining the gross and total values of the land, the additional value given to the land by unexhausted manures and tillages was to be included.
2. Whether, in arriving at the full site value of the land, the land was to be divested of grass, and of made roads used in connection with buildings.
3. Whether the value given to the land by unexhausted manures and tillage was to be deemed to be deducted as part of the Total Value attributable to a matter per-

(Continued on p. 123.)





HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES : HOME COUNTIES AREA.
CLASS A DESIGN. By Mr. H. W. HORSLEY, Architect.

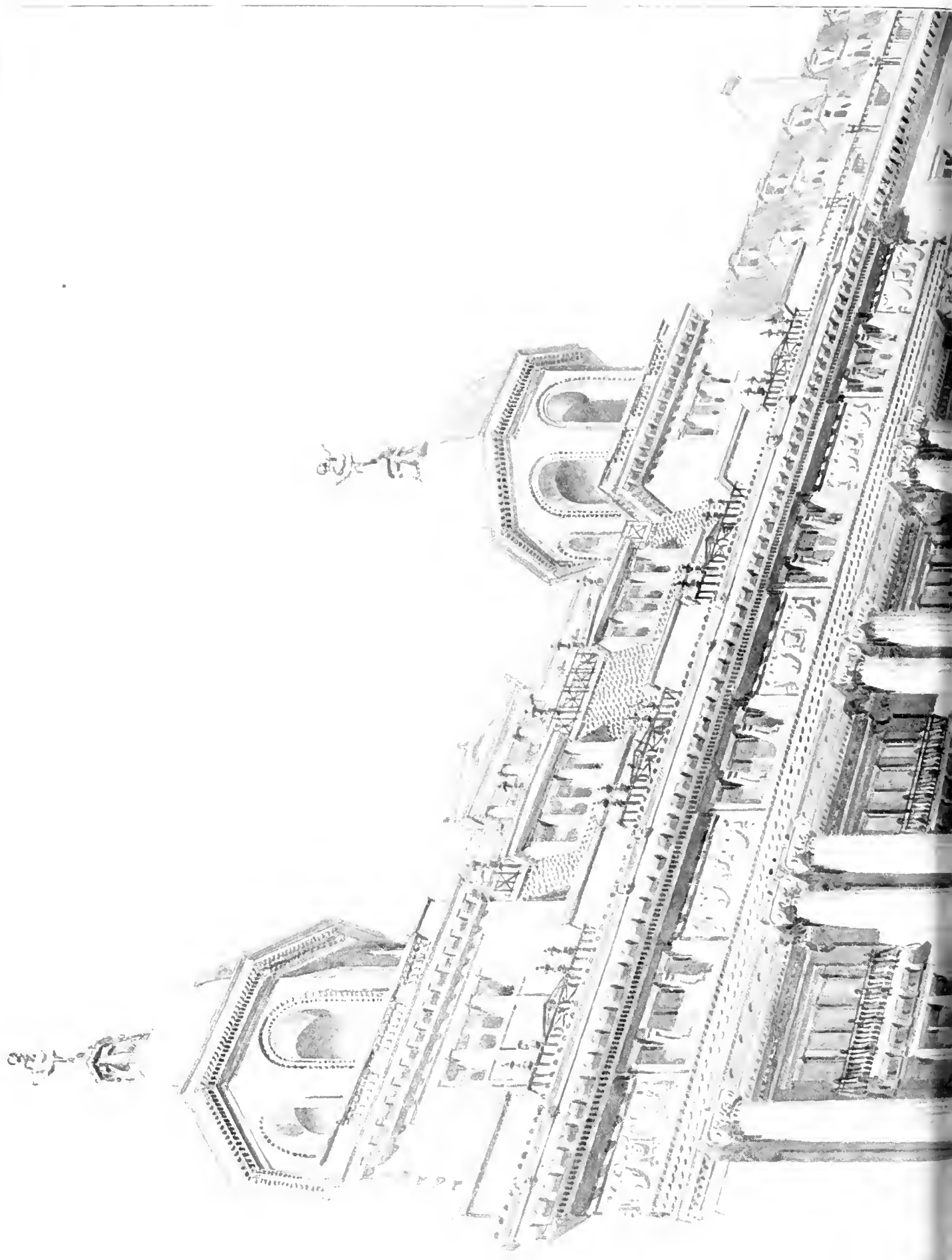


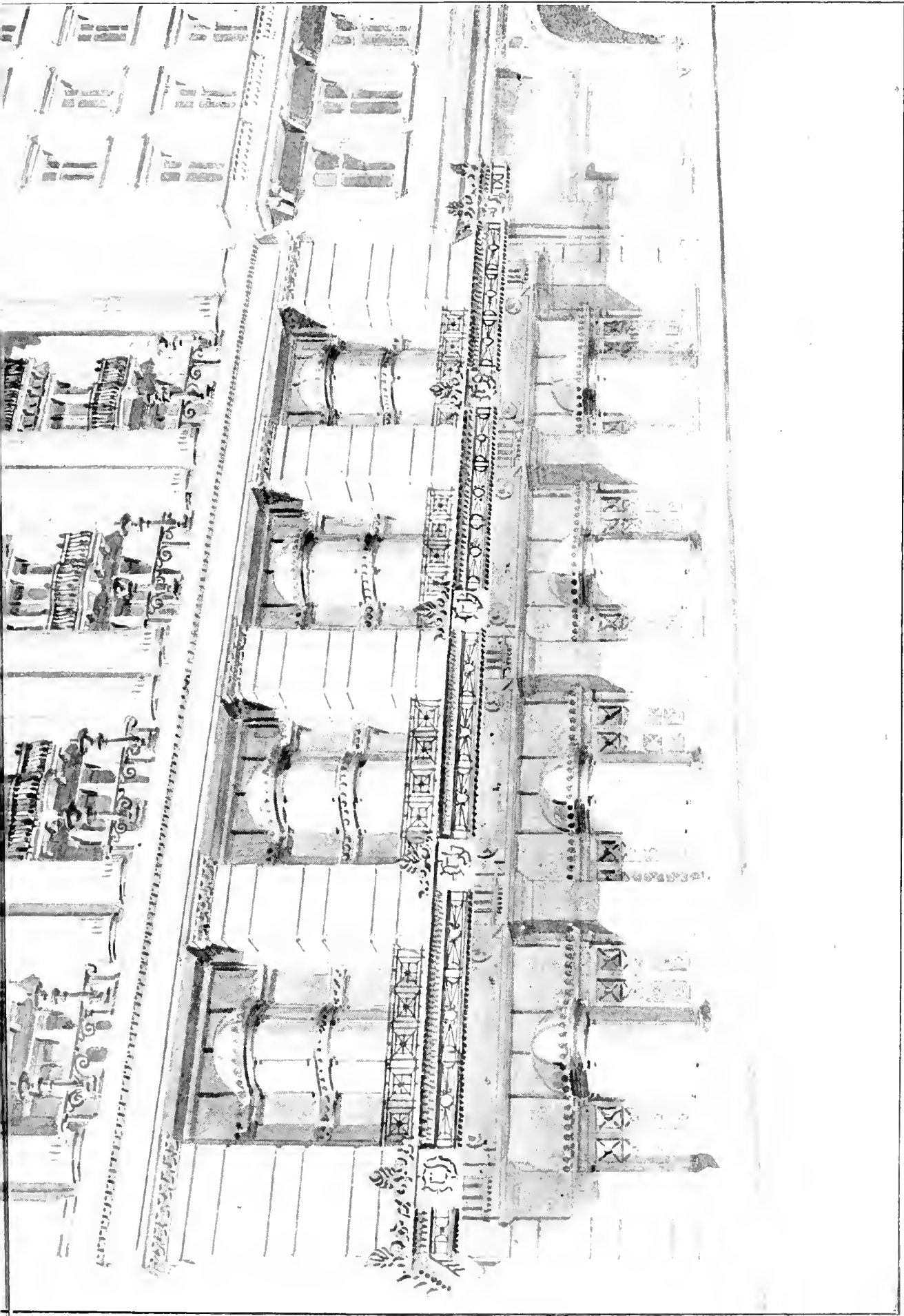
LA BIBLIOTHEQUE, BRUGES.

An Etching at the Royal Academy by Mr. SIDNEY TUSHINGHAM. (By permission of Messrs. Connell & Sons.)

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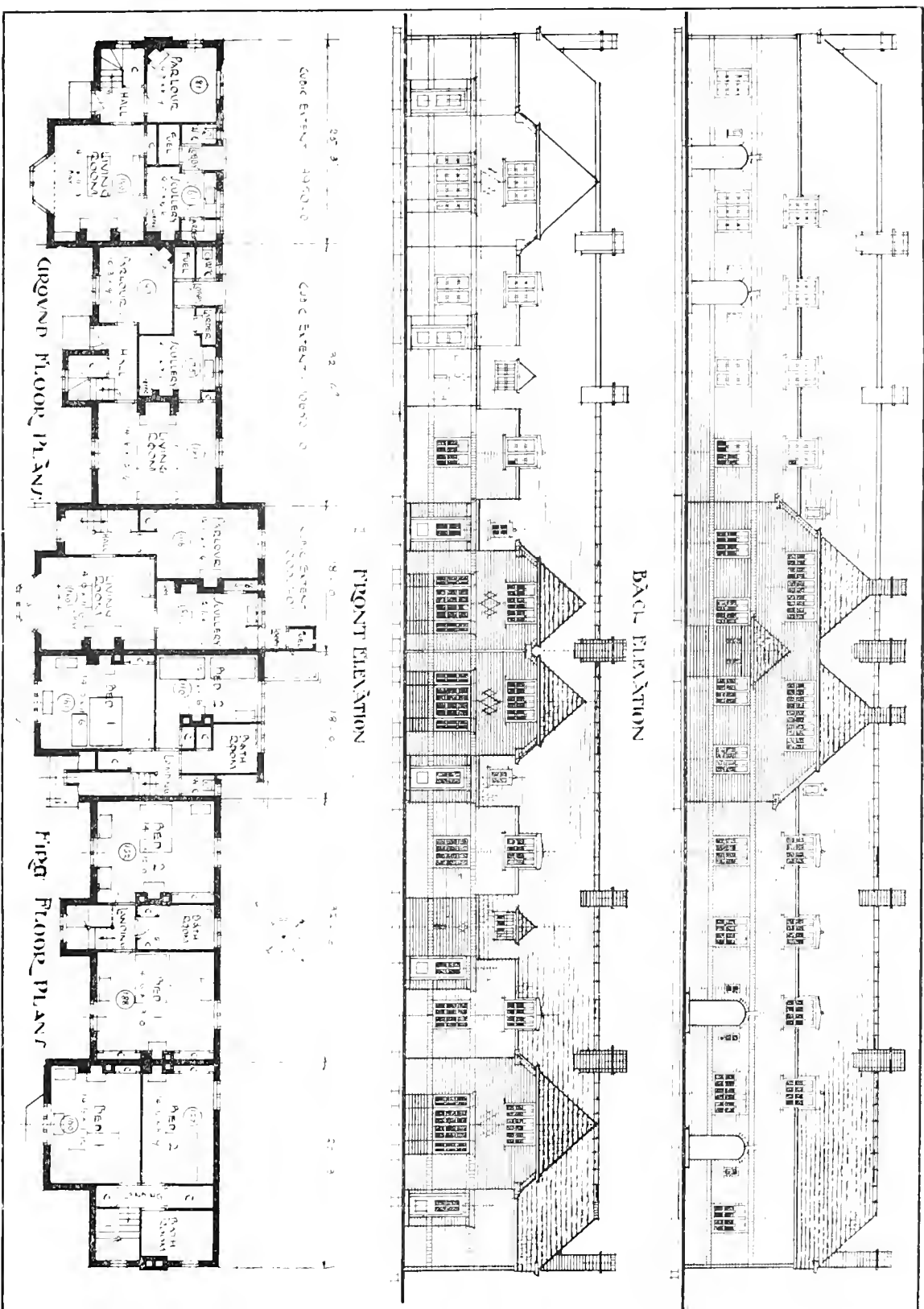


NEW HOTEL IN THE STRAND, W.C., FOR MESSRS. R. E. JONES, LIMITED.
SIR CHARLES T. RUTHEN, F.R.I.B.A., Architect.



CHURCH OF ST. JACQUES AND OLD HOUSES. LISIEUX.
From a Drawing by Mr. H. P. WEAVER, R.B.A., A.R.C.A., A.R.W.A.





HOUSING OF THE WORKING CLASSES, ENGLAND AND WALES: HOME COUNTIES AREA.
CLASS C DESIGN. By Mr. H. W. Horsley, Architect.



(Continued from p. 110.)

sonal to the owner or occupier of the land in arriving at the Assessable Site Value.

4. Whether the matters mentioned in (1) were included in the agricultural value.

5. Whether the agricultural value included value for sporting purposes.

Mr. Justice Scrutton answered questions (1), (2), and (4) in the affirmative, and questions (3) and (5) in the negative. "It is enough," he said, "to say that Referees, in valuing the land 'in its then condition,' should include in the Gross and Total Values any sums attributable to the value of unexhausted manures or tillage performed. . . I come therefore to the conclusion that the Referee must, in valuing land 'in its then condition,' include all unsevered vegetable growths, whether natural or artificial, transitory or permanent, emblements or not emblements. . . If so, is there any direction to deduct the value of growing crops, and especially grass, in arriving at the Assessable Site Value? There is not unless they are covered by these words, 'other things growing on the land,' which words do, in fact, correctly, though generally describe them. . . Part of the etcetera is in the words of the Act, 'Other things growing thereon,' and I am not able to see why grass, corn, or hops, which come within these words, are to be excluded. I think, therefore, the Referee was right in divesting the land of the grass growing thereon, which he had included in its gross and total value." There were other important points decided by Mr. Justice Scrutton, all of which went to show how completely the valuation, as carried out by the Department responsible for it, had broken down.

Another very important test case was that of Walter Morrison v. The Commissioners of Inland Revenue. It was an appeal by Mr. Morrison against the decision of the Referee, who, while allowing the heather growing on a moorland farm to be divested, had refused to allow a deduction in respect of the value attributable to the stone walls erected for the purpose of sheltering sheep. Mr. Morrison's appeal failed, but the Commissioners did not appeal against the Referee's decision that growing heather was a subject for deduction.

The net result of these decisions—a result admitted by the Commissioners themselves—is that, unless and until they are reversed, the only classes of property which the Commissioners can claim to have valued in accordance with the Act are private houses and commercial premises, upon which there is no fixed machinery, situate in old highways where no deduction is claimable in respect of appropriation of land for streets. The periodical valuation of all property, so much talked about as a natural corollary to the great valuation, also falls to the ground. As a result of the findings in these test cases no Undeveloped Land Duty will be collected, and the assessment of Increment Value Duty on agricultural land, undeveloped land and houses affected by the Deptford case can only be based upon the Government's own original valuation, which was already subject to revision when the Courts had given their final decision in the various cases under review, and the collection of this tax which can be carried out under Section 27 of the Act, which provides that where a valuation is not completed the tax can still be gathered, is subject to revision apparently in almost every case, the same section of the Act making provision for the readjustment of the duty when the valuation is completed.

The Lumsden Case was an appeal by the Commissioners of Inland Revenue against the Referee's decision that Increment Value Duty was not payable "on the occasion" out of the profits of a builder or property owner where the value of the bare site had not increased. The case came before Mr. Justice Horridge, who found that, under the wording of the Act and the method of arriving at the value of the property on the occasion, Increment Value Duty was payable in cases where it was admitted that the value of the site had not increased. This finding was a serious blow to builders, and was against direct promises made during the passing of the Act through Parliament.

The Government at first attempted to justify the levying of the tax, but, under pressure from the Land Union, were bound to recognise the injustice caused by the interpretation of this part of the Act, and promised a one-clause Bill to prevent claims for Increment Value Duty being made in similar cases. Owing to the War this promise has not been fulfilled, and latterly, through the insistence of the Land Union, claims affected by the judgment have not been pressed.

Two interesting cases on Reversion Duty, one of which was fought by the Land Union, may be taken together, the Marquis Camden v. The Commissioners of Inland Revenue and Stepney and Bow Foundation v. The Commissioners of Inland Revenue, both cases being decided by Mr. Justice Horridge in favour of the Commissioners, who contended that the duty was one-tenth of the difference between the total value of the property (including the buildings) at the date of the expiration of the lease, and the total value of the property at the date of the grant of the lease based exclusively on (1) the rent received, and (2) any payments directly made by the lessee to the lessor by way of premium or fine for the grant of the lease. The Land Union took the view that money spent by an intending lessee in erecting buildings or effecting improvements under an agreement for a lease should be taken into account in ascertaining the value of the property at the date of the grant of the lease, and they appealed against Mr. Justice Horridge's decision. The Court of Appeal reversed the judgment, and the Camden case was then referred to the House of Lords, which also decided against the contention of the Commissioners. It therefore remains that, in arriving at total value at the date of the grant of a lease granted in consideration of the lessee's erecting buildings or effecting improvements, no attention is to be paid to the respective interests of the lessor and lessee in the property and buildings thereon, but only to the value of the fee simple in possession. The Commissioners of Inland Revenue made one further attempt to obtain revenue in the form of Reversion Duty, but even this attempt was foiled, the Court of Appeal deciding, in the test case against the Ecclesiastical Commissioners, that the revenue claims were not in accordance with the provisions of the Statute.

On the question of Undeveloped Land Duty many cases were fought, to mention only the most important, "The Southend-on-Sea Estates Co., Limited, v. the Commissioners of Inland Revenue." The question at issue was whether an owner was exempt from undeveloped land duty by reason of the fact that he had leased his land before April 30, 1909, when, by the terms of the lease, he had opportunity to resume possession for the purposes of building. The Crown admitted that the respondents had no wish to develop the land, but contended that, inasmuch as they had the power to do so if they wished, they were liable to pay the duty. When the case came before Mr. Justice Scrutton in the High Court, the Southend-on-Sea Estates Co. were appealing against the award of the Referee who had upheld the assessment by the Commissioners of the land to the duty, but Mr. Justice Scrutton dismissed the appeal. The case was then referred to the Court of Appeal, where the appeal was allowed. Finally, the Commissioners took the case before the House of Lords in October, 1914, where the decision of the Court of Appeal was unanimously upheld.

This brief sketch of ten years of strenuous work in the Courts will give the reader some idea of the present position. It was inevitable that the farce of these taxes could not be allowed to continue indefinitely, and it had become essential that a stringent inquiry should be held to consider the whole position. The total cost to the country of the valuation and the collection of the taxes is *£4,048,557, while the amount collected is only £957,445, and it must not be overlooked that the cost to the individual has been enormous. It is impossible to ascer-

tain the figure, but it is probably not much less than the total of expenditure given above.

The evils wrought have been much more serious than is known to the general public. They are many and far-reaching, but the most serious of all is the present position in regard to housing. After the passing of the Act in 1910, the building of houses almost ceased, and, although it was subsequently carried on spasmodically, at the outbreak of war the country was in a position in this respect unparalleled in its modern history. Hitherto, owing to the business enterprise of individuals, the supply of houses had always exceeded the demand. By 1914 this situation was reversed, and there were not enough houses for the population to occupy. Four years of war have accentuated this unfortunate position of affairs, and extraordinary measures are being taken to provide the necessary accommodation. For this the taxpayer will have to pay many millions of money. The grave state of affairs is fully realised by all, but that the necessity for the expenditure of these millions is the direct result of the People's Budget has not yet penetrated the minds of those who have not followed the trend of events. There are many lessons to be learned from the history of the campaign which resulted in the passing of Part 1 of the Finance Act, 1910, and the subsequent working of the Act.

Political dishonesty as a means to an end is not profitable to anyone, and legislation which is forced through in the teeth of strong opposition from all sections of the community is invariably unsound in principle, however alluring it may seem to those who live on catch words. Panic legislation to satisfy the demand of cranks and minorities whose real desire is to foster class prejudice under the cloak of conferring benefits on the masses is neither politic nor straightforward, and does not, in fact, help in the long run to further the personal ambitions of those who employ such methods. A man who will plunder one innocent person's hen-roost is naturally looked upon with suspicion by the owners of other forms of property, and they wonder how long they will be allowed to retain their lawful possessions.

One great benefit that Mr. Lloyd George has conferred on owners of property is that he has taught them to organise: they are at last beginning to see the necessity for standing together to resist the attacks made upon them by unscrupulous agitators, and their thanks are due to the Land Union for showing them the way. Mr. Austen Chamberlain, the Chancellor of the Exchequer, in his recent Budget speech, expressed an opinion that in their present form these taxes were unworkable. This fact has been known to the Land Union for the last nine years, and it is unfortunate that it was not consulted as to the true nature of the theoretical proposals in the 1909 Budget. If this had been done, not only would enormous sums have been saved to the taxpayer, but the present serious situation as regards the development of land and the building of houses would have been avoided. The efforts of the Land Union during the past years, however, have not been in vain, and a Select Committee of the House of Commons has been appointed to consider what should be the future of the Land Values Duties and how best the Country can protect itself from the experiments in Land Values Duties which have landed it in a veritable morass.

The Chichester War Memorial Committee has adopted a recommendation to restore for use the old Guildhall in Priory Park, at an estimated cost of £3,500. The architect is Mr. E. T. Prior, Professor of Architecture at Cambridge.

Mr. Frank Wilkinson, A.M. Inst.C.E., borough surveyor, Deptford, has been appointed engineer and surveyor to the Will-sden Urban District Council at a salary of £800, rising to £1,200 a year. Mr. Wilkinson, who is forty years of age, previous to his appointment at Deptford four years ago, was deputy borough engineer to the Wimbledon Corporation, and had previously served under the Rawtenstall and Rochdale Corporations.

* To March 31, 1918.

CURIOSITIES OF RARE WOODS.

With the development of the wood-working art and the expansion of the furniture trade there came a demand for new and rare woods, and explorers searched the forests of the earth for different effects of grain and colour. writes the "Canadian Wood-worker." From the Andaman Islands, from unexplored Africa, from Borneo, from the remotest corners of the earth, woods rivaling the mahogany of Mexico and Cuba have thus been brought to light. From the Philippine and Hawaiian Islands and from the forests of South America strange woods have been obtained of wonderful grain and colour effect, which are still hardly known by name.

Lately, attention has turned more to fields at hand. Gnarled old trees, twisted and insect-stung, despised by the lumberman, are yielding ornamental woods worth many thousand dollars. Curly birch is but the twisted grain of the ordinary tree, obtained usually from a crotch or where a trunk has been twisted by frequent wind storms. To-day the birch tree that holds the greatest number of these curly burls is considered more valuable than the tall, straight tree without a variation in its normally developed texture. Bird's-eye maple is caused by the sting of an insect whose poison produces a sore in the tree. Nature, attempting to heal the injury, pours new sap into the wound to neutralise the effect of the poison. The outward effect is of a number of excrecences: but when the wood is cut, veneered, and polished, the beautiful bird's-eye maple effect is obtained. It is generally the apparently worthless small scrub-oak that gives those delightful pith rays, flaming curls and intricate patterns of light and dark shades that quarter-sawing brings out.

The finest Circassian walnut comes from misshapen, dwarfed trees on the shores of the Black Sea; and the most beautiful parts come from the twisted roots, the burls caused by insect stings. Such growths are so interwoven that they produce the curious and irregular graining which makes the wood more valuable for veneers than mahogany.

No two mahogany trees are quite alike. Formerly only the tall, well-formed trees were cut for trade; now it is the misshapen tree that is more keenly sought. The wood expert searches the forests for some abnormal growth. Pieces cut from a crotch show the graceful curls so much desired in fine furniture. Sometimes the figure shown is of flamelike tufts, called "feather" in the trade. As often happens in some mahogany trees, the fibres are arranged spirally by a freak of nature, and when cut lengthwise light and dark stripes are exposed.

The ebony from Southern India and Ceylon has a perfectly white outer wood which is neither beautiful nor useful. There is no grain to it. It is the intensely black heart-wood that is used so extensively for inlay work. The tiger-wood, or Congo walnut, owes its flaming effect to some unknown freak of nature, for the best of it comes only from a limited number of selected trees. East India mahogany, or vermilion wood, owes its colouring to soil, climate and other natural agencies.

But all these woods, and others unnamed, require the application of industrial art and science. Skilful dressing and polishing is necessary to bring out their veining and other characteristics. Science is brought to bear in making their exploitation commercially possible; for instance, enabling veneers to be cut to less than a hundredth of an inch in thickness. So the architect and furniture designer get the great choice of beautifully grained woods which they blend and work into the harmonious effects in which we so excel to-day, surpassing the highest ambitions of the artists in wood of the preceding century.

Our Office Table.

From the day concrete made its advent in building construction (says *Power Plant Engineering*, p. 543, June 15, 1919), its merits were fully recognised. It must be admitted that for a large number of structures there is actually no better material than concrete. It became evident very soon, however, that it is an entirely unsuitable material for any purposes where it is subject to attack of heat, products of combustion, or undiluted acids. One of the best structures in which such conditions prevail is the chimney. For the moment, we do not want to discuss those where the structure collapsed during the construction or soon after. We refer for the present only to those which decayed rapidly soon after being put in use. The thin walls of the stack permitted rapid radiation of heat. Condensation took place on the inner side of the stack, and the condensate worked its way into the fissures, rapidly destroying the texture of the material, and attacking the reinforcing steel. The stacks started to lean, to burst open, or collapsed entirely. Recently this inherent defect has been in part overcome by using a lining of burned clay, extending the full length of the stack.

The Ministry of Labour makes the following announcement:—The difference affecting building trade operatives in Dumfriesshire, Kirkcudbrightshire and Wigtownshire has been referred by the Ministry of Labour for determination under the Wages (Temporary Regulation) Acts to the Court of Arbitration established under those Acts. The claims of the workpeople are for a standard rate of 1s. 8d. per hour for masons, joiners, plasterers, and slaters, for a 44-hour working week, being five days of eight hours per day and four hours on Saturday, and also for 1s. 4d. per hour for labourers, for a 44-hour working week, being five days of eight hours per day and four hours on Saturday, as from April 1, 1919. Arrangements have been made for the hearing to take place at 3 p.m. on Thursday, August 7, at the Christian Institute, 70, Bothwell Street, Glasgow.

"When the King had finished speaking at the Guildhall yesterday week," says the *Times*, "the Lord Mayor presented Mr. John Elkan, mover of the resolution for presenting the Address; the two senior Aldermen, Sir Joseph Savory and Sir Walter Wilkin; the Sheriffs, Mr. Banister F. Fletcher and Colonel W. R. Smith; and Mr. H. D. Kimber, Chief Commoner. During these presentations a little ceremony occurred which seemed peculiarly in accord with the historic and picturesque character of the occasion. First Mr. Fletcher, then Colonel Smith, knelt on one knee before the King, who with a sword handed to him by his Equerry, touched each of them lightly on the shoulder and dubbed him knight. They arose Sir Banister Fletcher and Sir William Smith." The congratulations of his many friends have followed the bestowal of the well-deserved honour on Sir Banister F. Fletcher, the first architect-Sheriff of the City of London.

Details of a supplementary estimate for £20,441,058 for the Civil Service during the current year include an item of £6,650,590 for the Ministry of Health and one of £773,037 for the Scottish Board of Health. It is not proposed to proceed with the estimates for the English and Scottish Local Government Boards, the English, Scottish, and Welsh Insurance Commissions, and the Highlands and Islands (Medical Service) Board. The provision included for those services for the vote on account was more than sufficient to cover the expenditure on them up to the date of transfer (July 11, 1919). The unexpended balances are not available to meet the expenditure of the Ministry of Health and the Scottish Board of Health, and will be surrendered to the Exchequer.

Tenders for the erection of 430 houses were accepted by the Derby Town Council last

Wednesday. The cost, including street works and land, amounts to £897 per house, compared with a maximum of £750 hitherto sanctioned by the Ministry of Labour in other towns. In granting this concession the Ministry intimated that no further scheme at so high an expenditure would be approved, and the Council accordingly requested a private individual, who proposed to build houses for sale to the Corporation, to modify his plans. A building company's offer to provide 114 houses was accepted.

William Behnes, the sculptor in whose studio Mr. G. A. Storey, R.A., received his earliest art training, was, as the *Manchester Guardian* recalls, a competitor when the scheme for a London memorial to Nelson was mooted. He sent the committee plans for an edifice 140 feet in diameter at the base, with carriage drives through it, and containing "two mausolea or depositories for the cenotaphs and monuments of illustrious persons distinguished by acts of valour or renown; also spacious depositories for naval records and papers connected with the history of England's far-famed wooden walls." This was to support an obelisk, which in its turn was to be surmounted by a Grecian Doric column capped by a colossal bronze figure of Nelson. The total height was to be 300 feet. Behnes, who was then well-nigh as prominent a sculptor as Chantrey, executed a number of public monuments. But the committee rejected his plan.

The Housing Advisory Committee of the Lincoln City Council at the last meeting reported that they had conferred at some length with two representatives of the Ministry of Munitions with regard to the cost of houses that were being built under the town planning scheme. The average cost of the houses, including sewerage, would be about £1,100, and the Ministry desired, as far as possible, that an economic rent should be charged upon 70 per cent. of such cost—namely, on £700. In respect of the Wragby Road houses, it was stated that an economic rent on 70 per cent. of the cost would work out at £1 8s. 9½d. per week, and the committee recommended that the Ministry of Munitions be informed that in their opinion the rent of the Wragby Road houses should not exceed 15s. 6d. per week, inclusive of rates. They further recommended the Housing Committee to cause plans and estimates to be prepared and tenders invited with a view to the erection of an additional twenty-five or fifty houses at once. The Housing and Town Planning Committee agreed to this. The Mayor said he understood that no progress at all was being made, and it was difficult to say when the houses would be ready for occupation. Councillor Smalley said it was a shame the city should be saddled with such a costly scheme.

The number of new schemes received by the Ministry of Health during the week ended July 26 is rather below the average. The week's new schemes, 139 in number, are fairly large in extent; they comprise an area of nearly 1,100 acres, which is sufficient for about 11,000 houses. The largest scheme of the week, promoted by the Woolwich Council, comprises an area of 334 acres, part of the Page Estate at Eltham. As a start, it is proposed to build 1,000 houses, but ultimately 3,000 houses will be erected within the area.

"Surplus," the bi-monthly official organ of the Disposal Board, Ministry of Munitions, has now reached its 5th number, which is published to-day (August 1). Over 120 pages are devoted to the classification and description of surplus war material, and some new illustrations are given of National Factories, machinery, etc., for sale. There are also views of the model hut converted into a bungalow at Southampton, similar to that exhibited on Horse Guards' Parade, London, which has created so much public interest. Huts and building material for disposal are conveniently grouped under counties; and another feature which will be found useful is the advance notices of the various Auction Sales, classified both as regards materials and localities. A new section is added dealing with non-ferrous

Mr. W. F. Miller, Harrowdean Road, Inverness, has been appointed burgh surveyor of Lerwick. He was ten years in the Falkirk Burgh Surveyor's office, and then for two years in the Government Valuation Office, Inverness. Mr. Miller has recently been demobilised from the Army.

metals. This brings the number of sections up to twenty, in which detailed particulars are given of the immense variety of Government property now being offered to the public in all parts of the country. The Miscellaneous Stores list has been greatly expanded, and includes numerous articles of considerable interest and value. "Surplus" is on sale at all bookstalls and newsagents, price 3d.

A special meeting of the London County Council was held last Friday to consider a motion by Mr. A. H. Scott, "that in the opinion of the Council the powers and duties in regard to markets conferred by the Public Health Act, 1875, upon municipal authorities outside London should be conferred also upon the London County Council, and that it be referred to the Public Control Committee to submit proposals accordingly." Mr. Scott said the food question in London was both grave and serious. The Public Control Committee had pointed out in their report that no matter how plentiful might be the supply of fish, the result, so far as London was concerned, was that high prices were charged, and considerable waste went on. The Public Control Committee recommended that there should be an inquiry, but he did not agree with that recommendation. Inquiries had been held before, but no good had resulted from them, and he asked the Council to take the responsibility now that they ought to have taken fifteen or sixteen years ago. He desired that the Council should ask Parliament for the same privilege which had been granted to other municipalities in the country. Mr. J. W. Gilbert moved as an amendment: "That the Government be urged to appoint a Departmental Committee to consider the question of high prices of food and market facilities and ownership in London, with a view to action being taken before the coming winter to secure a cheaper and more plentiful supply of food." He failed to see, he said, that the motion would be productive of immediate action being taken—it would not touch the problem for at least a year. He suggested that effective action would follow his amendment. Mr. C. W. Matthews seconded the amendment, which was opposed by the Rev. J. Scott Lidgett, who said this was not a question of the way the markets were administered, but the setting up of the County Council as the market authority for the whole of London. On the amendment being put, the Chairman declared that it was lost, but on a division being taken it was carried by 46 to 43.

A representative from the Solicitor's department of the L.C.C. applied to Sir John Dickinson at Bow Street last Friday to appoint a surveyor to make a valuation of property in connection with the widening of Piccadilly. The Council, it was stated, had treated successfully with all the tenants except one, who occupied two rooms for business purposes. The solicitor selected to arbitrate in cases of this kind had died, and the Council's representative now handed the magistrate a paper containing the names of some leading surveyors from whom to make a choice. Sir John Dickinson said he was being asked to take a leap in the dark. Any selection he might make at present would be of no more value than putting several names in a hat and drawing one. He promised to make inquiries and give his decision later.

The Middlesex County Council has decided to erect a secondary school for Willesden on a site at Uffington Road, Willesden Green. The adjoining roads on this estate are named "Donnington" and "Newbury." Fifty years ago they were cut through the property of the late Thomas Hughes, Q.C., author of "Tom Brown's School-days," and he called two of them after villages in the "Vale of the White Horse," the "Scouring" of which landmark formed the title and subject of another of his books. "Tom Hughes" showed a good deal of interest in that part of Willesden, and many old residents will remember his addresses on "Co-operation" at the school-room of Harlesden Parish Church.

A remarkable replica in wood of the west front of Rheims Cathedral has just been completed by Mr. William Pollitt, of 40, Oswald Street, Rochdale. The work was commenced by Mr. Pollitt on September 21, 1914, and

finished on July 23, 1919, so that it took nearly five years to complete. It is two feet and one inch wide, and stands three feet in height, the scale being one-eighth of an inch to a foot. Various kinds of wood are included in the structure, among them being cedar, Californian, bamboo, and maple. The three portals are enriched with an amazing wealth of sculpture—in, and on the face of them, there are 483 statues, each separately carved. The centre portal is devoted to a representation of the Virgin Mary, the north portal to St. Paul, and the south portal to the Last Judgment. In the apse of the gables are representations of the Crucifixion, the coronation of the Virgin, and the Judge of the world. Above the central portal is the great rose window, and over this the gallery of kings. Above the gallery are the two towers—splendid specimens of middle pointed architecture. Mr. Pollitt hopes to complete in a few days arrangements for exhibiting the model in Rochdale, along with the replica of Cologne Cathedral, which he completed, after twenty-four years' labour, a few months before the outbreak of war.

STATUES, MEMORIALS, etc.

KENT COUNTY MEMORIAL.—The scheme for the Kent County War Memorial was inaugurated yesterday, when the site was dedicated by the Archbishop of Canterbury, and a laurel wreath hung on a temporary cross by Mrs. Davidson. The shrine will be situated on a piece of ground at the east end of Canterbury Cathedral, known as the Bowling Green. It lies between Becket's Crown at the end of the Choir, and the Abbey of St. Augustine. On the west it is bounded by the old wall of the Cathedral precincts, and on the east by the medieval wall of the city, which occupy the same position as in the 11th century. In the city wall there still exists a bastion, which will be restored, and could be consecrated as a chapel. The Norman gateway by which it is entered from the precincts will form the permanent entrance to the memorial. The site connects with an archway through the city wall, and from this a private passage leads to St. Augustine's Abbey. The committee invited Mr. Herbert Baker to assist them with a design for the memorial. His proposals have been practically approved. The place needs little alteration. There must be some repair to the walls, and a monument in the centre of the existing grass plot. The intention is also to build arcades on two sides, linking the precincts with the city wall.

WAR MEMORIAL AT EXETER.—The committee appointed by the citizens of Exeter, have finally decided that a design submitted by Mr. John Angel, the sculptor, for their war memorial, is the most suitable. The design embodies a statue of Victory, holding aloft a wreath, her foot upon a dragon. Grouped around a simple pedestal, is the figure of a sailor, a soldier, a hospital nurse and a land worker. The figures will be in bronze, and the estimated cost about £5,000. The site for the memorial is Northernway, a picturesque one, of much natural beauty. Mr. Angel, the designer, is a native of Exeter, he commenced his career at the Exeter Art School, from there he proceeded to the Royal Academy Schools, winning the Academy Gold Medal and the Travelling Scholarship in 1911. The current exhibition contains a group by him, entitled St. George. Exeter is to be doubly congratulated, on having produced such a clever artist, and on placing the execution of their war memorial on his hands.

At the last meeting of the West Bromwich Town Council the Council agreed to sanction being sought to borrow the money required to purchase land for housing purposes. Alderman Kenrick said that the Council were practically signing a blank cheque, because they did not know what the amount would be. The committee had decided how much they were willing to pay, but the Government thought the price excessive, and they were now carrying out negotiations on their own. Tenders were now being invited for the erection of the first batch of 350 houses on the Tantany estate, and he expected that the cost would be in excess of the original estimate.

CHIPS.

Mr. W. Mallinson has been appointed clerk of works for the new Council school at Lower Place, Rochdale.

Bridgnorth has decided to erect a local memorial of statuary, and over £600 has already been subscribed.

In response to a widely expressed desire, the Government has decided to place a statue of the late Mr. Joseph Chamberlain within the Parliamentary precincts, although the exact site has not yet been chosen.

The Harrogate Trades and Labour Club have purchased the Holmes estate in High Harrogate for building a trades hall. The approximate cost of the scheme, which is to be completed by the end of 1921, is £220,000.

A new agreement has been drawn up on the hours and wages of timber trade workers at Liverpool Docks. The working week will be forty-four hours, the minimum rate of pay 13s. 2d. per day, and overtime 3s. 3d. per hour, work from 6 to 10 in the evening to be paid for at the rate of 9s. 10½d., and double time for Sunday work.

Amongst those troubled with the housing problem is the Rector of Liverpool. In addition to the loss of St. Peter's, he has to face the loss of his rectory. The Rodney Street house which goes by that name was merely rented by his two predecessors, now Bishops Kempthorne and Bilbrough, and recently it has been sold by its owner to a purchaser who requires possession for himself about next April.

A committee has been formed to promote a memorial to the late Sir Samuel Evans, President of the Admiralty and Divorce Division, in the form of a professorship, studentship, or prize in Wales. An appeal is made for subscriptions. Sir George Frampton, R.A., has undertaken to execute a bust to be placed in the Law Courts, and it is hoped to provide a replica for Cardiff or Swansea.

After consultation with Sir Aston Webb, P.R.A., the committee concerned with the proposed additions to the University College of North Wales, Bangor, have decided to entrust the work of designing the new Science buildings to Mr. H. T. Hare, architect of the Arts buildings. A Welsh architect, Mr. H. Harold Hughes, of the Diocesan Offices, Bangor, N. Wales, is to act with Mr. Hare in carrying out the scheme.

The Edinburgh Town Council's Housing and Town Planning Committee, at a meeting last week, heard a report on the competitive plans submitted for city housing by the Assessor, Sir John Burnet. In response to the invitation of the Town Council, which was open to architects in Edinburgh and Midlothian, some sixteen competitors have come forward with plans. Sir John Burnet has completed his examination of the plans and has made a selection for premiums. The names of the successful competitors will be disclosed later.

Mr. Percy B. Tubbs, who organised the Station Company of the Volunteers and was himself in charge of Waterloo Station during the war, has been presented by the men serving under him with a silver salver and a book containing an address autographed by all the men, and also by Major-General Sir Francis Lloyd (formerly commanding the London District), Major-General Fielding (the present Commander), General Carter, and Sir Douglas Matthews and Mr. Valentine Matthews, who were in charge of the Rest Houses.

Mr. Joseph Lobley, M.Inst.C.E., borough engineer and surveyor of the former county borough of Hanley, died on the 22nd ult., aged seventy-nine. He was appointed borough engineer and surveyor of Hanley in 1871, and during his long connection with the borough he rendered valuable service in connection with the sewage disposal system, electricity undertaking, public buildings, and street improvements. Mr. Lobley leaves a widow, four sons, and two daughters. The eldest son, Mr. Frank J. Lobley, is the present borough surveyor of Chichester.

We remind all builders and others interested that Mr. G. W. Golding's sale next Monday and Tuesday at Belton Park, three miles from Grantham Station, commencing each day at 11 a.m., includes no less than 300 corrugated iron huts, etc., surplus war stores. Catalogues can be had from the auctioneer, Mr. G. W. Golding, 33, Westgate, Grantham, and they will be found very attractive to all in search of bargains. Conveyances will meet the morning trains arriving at Grantham each day, and conveyances will meet passengers to convey them to Belton Park at one shilling per head. Refreshments will be provided on the site of sale at moderate charges.

FOR

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APPLY TO—

WM. OLIVER & SONS, Ltd.,**120, Bunhill Row, London, E.C.****TENDERS.**

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

GRIMSBY.—For buildings in connection with extensions at the electricity station, for the town council.—

Marrows, H. £13,423 0 0
Accepted.

LEEDS.—For 47 houses at Hawksworth Wood, for the Corporation. Tenders accepted:—

Ahey, W., and Son, Harpham, L., and Thompson, W., and Sons. All of Leeds. Estimated cost, £42,750.

LONDON.—For supply and delivery of wrought-iron unclimbable fencing at Victoria Park, for the London County Council:—

Robinson, G., and Co. £11,799 9 9
Globe Tank and Hurdle Co., Ltd. 1,000 12 0
Hill and Smith, Ltd. 967 6 9
Bayliss, Jones, and Bayliss, Ltd. ... 961 0 6
Palmer, T. W., and Co.* 915 0 0
* Accepted.

MILNSBRIDGE.—For alterations and additions to the Milnsbridge County Working Men's Club and Institute. J. Ainley, 1, Chapel Hill, Huddersfield, architect. Accepted tenders:—

Pearson, E., and Son, excavators, masons and bricklayers, £386; Harpin Bros., carpenters and joiners, £110; Allison, T., Ltd., plumbers, glaziers and slaters, £120 6s. 3d.; Day, H., and Sons, plasterers and painters, £60; Northern Concrete Co., Huddersfield, concretors, £46 4s. 3d. Rest of Milnsbridge.

SWANSEA.—For the first 150 houses on Town Hill, for the town council:—

Rogers and Davies, Birmingham £121,000 0 0
Accepted.

ULVERSTON.—For alterations and additions to Malt Kiln Farm, near Ulverston, the property of Mr. C. J. Chapman, J.P. J. W. Grundy and Sons, L.R.I.B.A., Central Buildings, Ulverston, architects:—

Gaskell, A. £1,479 7 10
Johnson, T. J. 1,445 16 0
Harrison, J. A. 1,419 16 3
Thom, A. O. 1,372 17 0

WEST HAM.—For extensions of engineering workshop at the Technical Institute, for the education committee:—

Maddison, W. J., 124-127, Minories, E.1. £547 0 0
Recommended for acceptance.

The Dumbarton C.C. have appointed as their architect for the county housing schemes Mr. Joseph Weekes (Licentiate R.I.B.A.), at present burgh surveyor and master of works at Irvine.

It is hoped that the ceremony of unveiling the Barnard statue of Abraham Lincoln will take place on or near September 15 next. Judge Parker is to leave for England at the end of August to take the leading part in the unveiling ceremony. A site for the statue—for a time, at any rate—has been found in Platt Fields (on the open ground fronting the old hall). The statue has been in Manchester a number of weeks, and is still housed at the Fire Station.

LIST OF TENDERS OPEN.**COMPETITIONS.**

Aug. 15.—For designs for War Memorial for the Leamington Spa.—For the War Memorial Committee. Premiums offered of £100, £50, and £25, for first three designs. Assessor, Mr. H. V. Ashley, F.R.I.B.A., 14, Gray's Inn Square, W.C. Designs to, and particulars of, Leo Rawlinson, Town Clerk, Leamington Spa.

Aug. 22.—Premium of £50 offered for the best lay-out of 36 acres for cottages by Bromborough T.D.C., the selected plans to become the property of the Council. Mr. Badger, Director of Housing for Liverpool, adjudicator. Plan of site obtainable on receipt of 10s. deposit. Designs to W. A. Weston, Clerk to the Council, Bromborough.

BUILDINGS.

July 26-Aug. 13.—For 12 houses at Chiddingfold, and 12 on a site at Shalford, for the parish of St. Martha.—For the Hambledon Rural District Council.—E. L. Lunn, L.R.I.B.A., 36, High Street, Guildford, architect. Tenders to H. A. Merriman, clerk, 138, High Street, Guildford.

Aug. 9.—Repairs, etc., at the Redhill institution and children's home near Edgware.—For the Guardians of Hendon Union.—Tenders to F. J. Seabrook, clerk to the guardians, Union Offices, Edgware.

Aug. 9.—For 38 houses on Hall Park Street site.—For Bilston Urban District Council.—E. Willan, acting engineer and surveyor, Town Hall, Bilston.

Aug. 9-11.—For stables, etc.—For the Cranlington Urban District Council.—Surveyors Office, Cranlington.

Aug. 9.—For houses on the Old Borough Park site.—For the Dewsbury Town Council.—J. Hall, town clerk, Dewsbury.

Aug. 9.—For 24 Class A and eight Class B cottages at Stopley.—For the Luton Rural District Council.—W. Austin, clerk, 7, George Street West, Luton.

Aug. 10.—For hooping with a sufficient number of iron bands a 120 ft. by 6 ft. chimney shaft and fixing a new lightning conductor.—For the Redditch Urban District Council.—G. W. Hobson, clerk of the council, Council House, Redditch.

Aug. 11.—Tenders are invited by the Commissioners of H.M. Works for the construction of the foundations of the General Post Office, East, London. Drawings, specifications, and a copy of the conditions and form of contract may be seen on application. Tenders to be addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.

Aug. 13-29.—Erection of eight cottages in the parish of Mountnessing.—For the Billericay Rural District Council.—C. E. Lewis, clerk, New Road, Brentwood.

Aug. 18.—Erection of eight houses at Walberton, in the rural district of Westhampnett, West Sussex.—For the Westhampnett Rural District Council.—W. D. Russell, clerk, 5, South Street, Chichester.

The Cabinet has decided that Sir Edwin Lutyens's cast shall be executed in marble and placed on the site it now occupies in Whitehall as a permanent memorial to "Our Glorious Dead."

The Bishop of St. Albans has issued an appeal to fill in the great west window of St. Albans Cathedral with stained glass as a memorial to the men from the two counties of Hertfordshire and Bedfordshire who have fallen in the war. A committee is being formed to collect the necessary funds and to decide upon an artist for the work.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

The charge for advertisements for "Situations Vacant" is Two Shillings and Sixpence for Twenty-four Words, and Sixpence for every Eight Words after. All Situation Advertisements must be prepaid.

RECEIVED.—W. and Co.—B. A. A.—A. H. and Son—W. S. and Co.—W. F.—W. L.—J. M. and Co.—F. B. and Co.—N. P.—B. S. Co., Ltd.—T. E. C.—S. H. B., Ltd.—H. and Son—B. of S-on-T.—R.I.B.A.—H. and Co.—W. and W.—J. F. and Son—C. of B.—A Red Cross—C. C. D. and Co., Ltd.—H. and Son.—I. L. G. Co., Ltd.—E. S.—F. M. F.—H. and G.—F. D. and Son—H. and J., Ltd.—C. H. P.—F. and B.—H. P. and G.—G. W. and Co.—J. S.—T. B. B., Ltd.

STIAS.—Yes

W. A.—Thanks, no.

EXTON.—A little premature.

It is proposed to erect a memorial on St. Anne's Hill, Buxton.

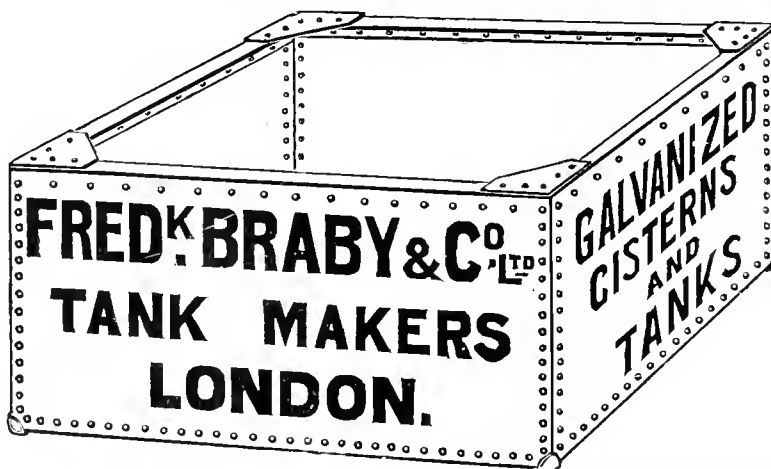
The following have been elected to office in the Joiners' Company: Master, Mr. Henry Harvey Phillips; Upper Warden, Mr. Nathaniel Philipp Lardner; Renter Warden, Mr. Walter Harold Phillips.

Sir Aston Webb, Bt., P.R.A., has been presented with the Freedom and Hon. Livery of the Painters' Company. This Guild has always been associated with the Royal Academy. At the latter's formulation in 1780, Charles Calton, then the Master, was named in the Charter as one of the original members. Sir Joshua Reynolds, Lord Leighton, Sir John Millais, and Sir Edward Poynter have all been associated with the Company.

The death is announced at Melbourne on July 30 of Sir Simon Fraser, late Commonwealth Senator for Victoria. Sir Simon was born in Nova Scotia in 1832, and went to Australia when twenty years of age. After experiences in gold-digging, contracting for bridges, etc., he, with his partners, built several railways, including one in South Australia, 200 miles long, which was the first section of the transcontinental railway. He received his knighthood in 1918.



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Strand, W.C.2

OUR ILLUSTRATIONS.

Imperial Delhi Government House. The garden side and the south elevation. Sir Edwin L. Lutyens, A.R.A., Architect.
The New Memorial Reredos for St. Matthew's Church, Southsea. Sir Charles Nicholson, Bt., M.A., F.R.I.B.A., Architect. Elevations and details to scale.
The Coliseum, High Street, Clapham, S.W. Messrs. North and Robin, Architects.
The Ewan Hall, Barnet, Herts. Mr. W. Charles Weymouth, F.R.I.B.A., Architect.

Currente Calamo.

Readers and advertisers are asked kindly to note that on September 5 next the publication of THE BUILDING NEWS will be changed back to Friday, as before the war, instead of Wednesday. The alteration from Friday to Wednesday was made then to ensure, as far as might be possible in the congested condition of all means of transit, the receipt of their copies by subscribers in the provinces. The object was achieved, and we are glad to know that readers in nearly every case had no difficulty in obtaining their paper, at any rate, before the expiration of the current week. But the disadvantages of the change were that it has occasionally hindered us from publishing news that ought to have been published, and advertisements which reached us later than 3 p.m. on Tuesday. Now that much more news and many more advertisements reach us later than Wednesday that imperatively claim publication in the same week, we have arranged to revert back to our old day of issue. On and after September 5 next, therefore, the paper will be published at 2 a.m. on Friday mornings, and the latest time for receipt of advertisements will be 3 p.m. on Thursdays.

It is simply impossible to believe in any intention of this Government to stop the riot of waste which some of its members profess to deplore, after reading the third Report of the Select Committee on National Expenditure, which deals principally with the proceedings of the Air Ministry, involving the most serious charges against both Government officials and private contractors, and, accompanying them, the refusal of the Lord Advocate to order a prosecution in a particular instance, and giving as one of his reasons for his refusal that "a prosecution would reveal what appears to be inefficiency and absence of control on the part of representatives of the Ministry on the spot."

Sir John Hunter, Administrator of Works and Buildings, in his evidence, reveals a remarkable state of affairs. He said that "enormous wages" were paid by the contractor with the consent of the Government. He had protested against these wages, and he held the opinion that not one of the 70,000 men employed on aerodrome construction had earned the

money he had received. He had come across cases of fraud in relation to the contracts, and there was a conspiracy at Renfrew in which one Government man and three contractors' men were concerned. He had four men arrested, and they had been on bail, each for £100, for the past four months, but the Crown authorities declined to prosecute, and the men were freed from the charge on June 7. He was, however, arranging a civil action against the contractor for, roughly, £50,000, less the money belonging to him for commission on work done. Sir John Hunter further declares that "dead men" were on the books and wages were drawn for them regularly from Government funds. He wants to know where all this money has gone. There was already a sum of £60,000 charged by the contractors to the job of aerodrome construction which could not be accounted for. Is such a reason as the Lord Advocate advances really to continue to shield the offenders? If so, things generally are indeed hopeless!

House-repair is nowadays a more serious matter than it ever was before, owing to the cost of labour and material. It does not seem at all likely that the old level of prices will be restored for many years, if at all. Meanwhile, the long wait of the war has left a great number of dwellings in sad dilapidation. To let such houses money must be spent by someone, and landlords and tenants both try to evade the expense. Often a house is occupied and the needful work adjourned, but still the question comes, which side is to pay? The curious recent case of "Fox v. Slaughter and Others," shows what legal tangles may arise over a simple letting, complicated with repairs. The plaintiff, a schoolmistress—and it is very surprising how often lately women have won their cases in the courts—sued the defendants for damages for illegal distress. She had taken the house, at Richmond, in a bad state of repair, upon a three years' agreement at £60, with possession, the defendants to do various specified repairs and rent only to begin and be payable from the date when these were all done. She went into the house in October, 1917; she paid no rent, as the repairs were not executed, and in July, 1918, defendants distrained for all rent then due. The plaintiff paid

£44 11s to release her goods, and now sued defendants for unlawful distress, as no rent was then owing under the agreement, claiming this money back again, and other damages. Defendants counterclaimed for use and occupation of the house, which she had partly sublet to her own profit. Lord Justice Scrutton, who heard the case, held that the defendants could not recover rent under the special agreement as the repairs were not done, nor could they claim under an implied promise for use and occupation. So he found for plaintiff, with £50 damages and costs, and dismissed defendants' counterclaim. We can imagine the landlord's shocked surprise, but this plucky tenant has given a lead as to repairs that others may like to follow.

In spite of some opposition, the Manchester City Council, at its meeting last Wednesday, determined that the council should promote a Bill in the next session of Parliament and ask for powers to acquire compulsorily the land and buildings bounded by Mount Street, Peter Street, St. Peter's Square, West Mosley Street, Princess Street, and the town hall, with a view to the erection on the land of additional municipal buildings and a new reference library. Alderman Johnston led the opposition to the extension of the town hall, and moved that the scheme be referred back for further consideration. He thought the scheme, however desirable it might seem, was unwarranted at the present time when so many other matters, such as housing, were pressing for attention. Councillor Taylor, seconding Alderman Johnston's motion, pointed to the general cry of the country for economy, and also to the increased rates—from 7s. 9d. before the war to 11s. 10d.—as an argument for caution in expenditure. As for the new reference library, he could not see why it should not be placed in the old Art Gallery when that building was given up by the Art Gallery Committee. As for the cost, his view was that it would be two or three times the suggested one and a half million pounds. Alderman Walker said that an extension of the town hall was needed so that all the departments of municipal activity might be placed in one building. Councillor Chantler thought the city had waited long enough for this extension scheme, and that the longer it was deferred the more costly would it

become. Alderman Simpson (chairman of the Town Hall Committee) said the scheme had been before the council several years, and if it were shelved now another and a larger scheme would probably have to be brought forward at a later time. This, in his view, was the only practical solution of the corporation's difficulties in the matter of accommodation. Sir Edward Holt said the scheme had been well considered, and before anything was done the council would have ample opportunity of considering it in detail. Thereupon Alderman Johnston's motion was put to the council and rejected.

The policy of the Government Timber Buyer, in offering his White Sea goods to the highest bidder, has been bitterly criticised, and it is understood that the authorities intend to adopt a similar method in dealing with yellow pine. If this proves correct, our contemporary, *Timber*, hardly "dares to think of the prices which will eventually be paid by the consumers for the latter article." A quicker volte-face than the recent decision of the Board of Trade can scarcely be imagined. The Controller, a little while ago, issued a notice, almost in indignant tones, remarking on the scandal of the high prices for yellow pine, and patted himself on the back for disposing of the wood on such terms as would permit the consumer to secure the material at reasonable prices. Now it is reported that he has completely changed his mind; the consumer must look after himself, and the Government, after securing almost a monopoly of yellow pine, intends to take unlimited advantage of this opportunity—a splendid example for others to follow, of which there will be no lack of imitators.

We have received from the Northern Hemlock and Hardwood Manufacturers' Association, of Oshkosh, Wis., U.S.A., a handsomely produced brochure descriptive of the qualities of the principal northern hardwoods of America, and their most suitable uses for filaments, doors, flooring, and furniture. Of these, hard maple, ash, elm, beech, and birch seem principally in demand by American architects, but the most beautiful of all, and apparently most in request, is birch. Half-a-dozen finished specimen panels of different varieties of birch sent us with the brochure really excite admiration of the splendid range of effects possible with America's "Beautiful Birch." One panel, very simply stained, gives a beautifully rich dark mahogany surface. Another, given three coats of enamel, rivals the purest ivory. A third, stained with oak stain, is a verisimilitude of real old English oak. The "Silver Birch" panel finished with grey acid stain and two coats of "Wunderlic" is delightfully cool looking. Walnut is exactly imitated by a nut-brown birch, "Golden Birch," merely treated with a filler and varnished. If, as we are assured, "Beautiful Birch" is as economical to use and as durable as its tested structural strength guarantees, we are

sure its introduction here would find many users, especially just now in the, perhaps, forced abstinence by most of our own hardwood merchants from such attractive publicity as that with which our more enterprising American friends introduce their specialities.

The American Institute of Weights and Measures has issued a second edition of its "Bulletin No. 10," which should be read by all desirous of finding why "The Metric System is Condemned by Those who Know." A copy of the booklet will be sent free to any applicant who writes, asking for it, to the office of the American Institute, 115, Broadway, New York. It contains full extracts from the writings or speeches of Past-President John Quincy Adams, Sir George B. Airy, several leading associations of scientific, trade, and professional men, and a number of eminent men all over the world who, from their various points of view, lay bare the defects of the system. It is once again sought to thrust on the civilised world by the "Reformers" whose idea is perpetual change at the expense of sound reason and business convenience.

Who is responsible for the damage to the statue of Queen Victoria, by Sir Edgar Boehm, on the southern face of the pedestal supporting the Griffin on the site of old Temple Bar? The right hand of the statue is missing, and a white fracture in the stone shows out sharply against the rather begrimed background.

IS "DIRECT ACTION" DESIRABLE?

Parliament is adjourning after a final display by Ministers of such crass ignorance of the real needs of the nation, or such callous indifference to the imminent necessity of meeting them, as to raise very serious doubts whether it is not written of this Government on the near annals of the future: "Quod Deus vult perdere, prius dementat." Freed from the long strain of the titanic struggle in which nation after nation was forced to join this country and France in the overthrow of a despotism unparalleled in history, ensanguined by a ferocity unmatched by the most ravening wild beast of prey, all that was expected of the Government by the mass of loyal citizens was reasonable business common sense, the removal of the irksome restrictions submitted to during the war, and to be let alone.

Days, weeks, and months have passed, and the backbone of the nation—the hard workers of every class or status, whose desire and interest it was to get to work and to fill the vast void with the necessary things rendered scarce or unobtainable during the five years of war, have grown weary of waiting for their chance. Meanwhile, the Government, which had so recklessly squandered money in the payment of extravagant wages to some of the war workers, set to work to deal out dolos by millions to the sections of the "unemployed," who will never touch work while money is to be begged or extorted. It harassed honest labour by interference in its concerns to an extent that has proved so futile that, conscious at last of its failure, it has proclaimed its intention of leaving the workers to settle their own disputes with their employers

—but not till the work of the revolutionary has been facilitated to an extent which was fatally successful in raising the cry for "Direct Action" strikes of the sort that succeed each other daily, and which, as at Liverpool, bid fair to turn town after town into theatres of lawless violence. But for the none-too-early return to reason of one Minister, and the commendable firmness of the chief of the Metropolitan Police, these might have been multiplied wherever the riff-raff of the place felt sure that murder and robbery were safe recreations in defiance of the law's first duty—to preserve order.

And, last week, in the midst of the turmoil brought about by its own mismanagement and lack of decision, what was the chief anxiety of the Government? To rush the second reading of the Ministers' Salaries Bill, which authorises the raising of the salaries of the Ministers of Agriculture, Education, Labour, and Food, and the Secretary for Scotland (who acquires the status of a Secretary of State) from £2,000 to £5,000. The criticism in the House itself was severe enough. Members of every party warned the Government that the Bill would be resented. "You are playing into the hands of the revolutionists," said Mr. Seddon. Out of fourteen members who took part in the debate, only two spoke in defence of the increased salaries, and although the Bill got its second reading by 176 votes to 83, it was a costly victory, and in reality a defeat. Mr. Bonar Law had to promise to defer the further stages of the Bill until the autumn, and the general expectation is that it will never be heard of again.

Take next Finance. An expenditure during the week ending August 2 of £30,617,037 brought the total sum spent between April 1 and August 2 to £499,399,163. The period is almost exactly one-third of the financial year, and the expenditure incurred is about one-third of the estimate for the whole year, which is £1,434,910,000, so that on this side of the account the Chancellor's calculations are working out with notable exactness. On the other hand, the revenue for the year was estimated at £1,201,100,000, and four months realised only £289,564,899, or less than a quarter of the total estimate. The Chancellor probably relies upon an immense influx of income-tax money in the later periods of the year to bring up his figures with a rush, but, judged by present appearances, he has budgeted for a far larger return from "miscellaneous" revenue than he is likely to get. That item includes the proceeds from the disposal of surplus Government stocks. It was expected to yield £209,700,000 in the full year, but up till August 2 the revenue from this source was no more than £13,886,328, or fully £7,000,000 less than in the corresponding period of the preceding year. Not much of a total in response to the flamboyant advertisements and other solicitations which have heralded the sales of Government stock all over the country!

Next we have Sir Auckland Geddes' new scheme to stop profiteering, with which he torpedoed the Parliamentary Committee on Profiteering last week, and actually at only their second sitting, at which Mr. Roberts, the Food Controller, denied there was profiteering, only to be point-blank contradicted the next day by Sir Auckland Geddes. Is it in the least likely that the new tribunals will deal drastically with the extortionate retail profiteer when in all probability he will be found among their members? And, at his worst, is the retail profiteer the worst sinner? Is

it not evident that, behind the retailer there is a chain of other agencies of which the chief links are other middlemen, the manufacturers, the combines of manufacturers, and even the international combine? The recently issued Government White Book proved conclusively that one principal cause of high prices is the collusion or conspiracy of manufacturers and producers to extinguish the competition which would lower them. Will Sir Auckland Geddes stop that? Will he muzzle the great Beef Trust, or the Tobacco Trust, or the Oil Trust? Will he tell us why petrol is four times as dear here as it is in New York? Or will he or his colleagues persist in keeping up the restrictions on imports by giving the great monopolists permanent tariffs, and by selling off our surplus stores and supplies in such fashion as to favour the big buyers, and choke off the smaller ones to the prejudice of the great mass of the consumers? Nothing can bring down prices of the things that can only be cheapened by greater production. Price-fixing has not done it, and it never will, as price-fixing has been tried. There is but one way, and that one way will cost money, if Sir Auckland Geddes' new scheme is to succeed. Is the Government really prepared to put on the market supplies equivalent to those at which the retailer may refuse to sell at the tribunal's price. The French, the Italian, and the American Government have done this to the extent of marketing their surplus supplies in such a way as to bring down prices where the private sellers are obdurate. Is the Government prepared to do the same here? It is certainly not an ideal one, and as we shall find out soon enough, in regard to housing, the taxpayer who can least afford it, and will least benefit by it, will have to pay the piper!

And Ireland? Mr. Lloyd George has not prepared his plans for the settlement of Ireland, and can do nothing before the Recess. His admissions, indeed, last Thursday, may justify some hope, even if only a vague one, that something is to be attempted to end the methods of military administration which have united so many Irishmen in hostility to Great Britain; but any such hope is shadowed by the conviction—not merely in Ireland, but here as well, that throughout his career the Prime Minister has made it a rule to postpone difficulties till a crisis was reached, and then to endeavour—generally without success—to tide over it by some remedy that was no remedy, but merely a party manoeuvre to gain more time, even at the risk of providing more discontent. His snarl at the *Times* was very characteristic. That journal has propounded a possible scheme, the details of which may challenge discussion, but the basis of which is sound and practical, but the Prime Minister will have nothing to do with it because the *Times* is not "particularly friendly" to him. A petty spirit, surely, but as assuredly akin to that which has hindered Mr. Lloyd George from confessing the futility of his financial legislation of 1909-10, and helping to avert the ruin it has brought on the second great industry of the country.

Lastly, there is all the talk about "plots" and "Bolshevism," which is the excuse for the War Emergency Law (Continuance) Bill, by which the most extended and harassing work of D.O.R.A. will be continued, and by means of which any person may be arrested and imprisoned for any reason the Government chooses to assign. Do Ministers really think "plots" or "Bolshevists" have changed the minds of the voters at Liverpool, Leyton, Hull, Aberdeen, Swansea, and

Bothwell? They know better. It is that sort of "direct action" they are afraid of. More of such "direct action" is, we trust, being organised in every constituency, and it is the bounden duty of every member of our own great group of industries to help. They have been smitten to earth more fatally than any other since 1910, and the rest of the voters may rest assured that if their wrongs are unredressed, the whip will be laid with ever-increasing vigour across the backs of the rest of the people, and especially those whose interests as landowners or employers of labour are identical with those which alone guarantee the real freedom of wholesome competition, and the solid welfare of the whole nation, and not the aggrandisement of an oligarchy of placemen and monopolist profiteers, still bent on using the extraordinary powers with which the Government was invested during the war, but which are now being prostituted to the enslavement of the democracy, still relying on stunt methods and thinking only of strategical manoeuvres. A few months more of such government may easily land us in a catastrophe. Only very "direct action," at the polls, and the resulting choice of a very different Parliament and Government will save us from bankruptcy and anarchy.

CHALK COTTAGES.

A report has been made to one of the Housing Commissioners on a group of three chalk cottages at Hursley, near Winchester, which were designed by Sir George Cooper's agent, who also superintended their erection. They were built in 1914.

The report states that the construction of these cottages is a simple return to the methods employed in the Middle Ages. The walls are constructed of "wattle and daub," formed by mixing the broken chalk with short straw rubbish, having a large proportion of charlock and other weeds. The chalk is spread in a thin layer on the ground, the straw is scattered over it, the whole is then watered and trodden into a mass of the consistency of putty.

The walls were built 18 ins. thick to first floor level, and 14 ins. above. The material is thrown up with a fork or shovel, and spread in position in layers not exceeding 18 ins. No plumb line was used, and the rigid lines of modern buildings are therefore absent. The exterior walls are covered with ordinary wire netting pegged down to the chalk and a coat of cement mortar is applied very rough from the trowel and lime whitened.

The walls to 6 ins. above the ground are brick built on concrete foundations. An impervious damp course was laid on the top course of the brick, and the chalk and straw construction commenced at that point.

The chimneys are of brick, as also are the internal partition walls. The roofs are thatched, and the windows are wood casements with leaded lights.

There is no reason why chimney breasts and stacks should not be carried up in chalk, as described. Perhaps a 9-in. pipe lining in this case would be desirable. The internal partition walls could be of fire-resisting slabs. The foundation up to damp course level might be carried up in concrete or ready-made concrete slabs laid flat. In this way space could be saved, and the whole structure made possible without the use of any bricks.

Sir George Cooper's agent states that he calculates that the difference in cost for the external walls of the three cottages (which are the only ones built of chalk) show a saving of about £54 over the same walls built in 9-in. brick by estate labour, calculating bricks at 33s. per 1,000 delivered. These are, of course, pre-war rates.

The above information (which is taken from *Housing*) is interesting, and it may be capable of application in certain cases. An illustration is given of the cottages, reproduced from *Country Life*.

Our Illustrations.

IMPERIAL DELHI GOVERNMENT HOUSE. THE GARDEN SIDE AND THE SOUTH ELEVATION.

These two water-colours by Mr. William Walcott complete the series of plates given by us illustrating the Imperial Buildings at Delhi, by Sir Edwin Lutyens, A.R.A., and Mr. Herbert Baker, F.R.I.B.A., most of these pictures being shown in the Architectural Gallery of the Royal Academy this year. Our previous illustrations, with plans, will be found in the *BUILDING NEWS* for May 7 and 21, June 7 and 25, July 16 and 23, with the Government official description in our issue for May 7.

MEMORIAL REREDOS, CHURCH OF ST. MATTHEW, SOUTHSEA.

This fine church of the late J. T. Micklethwaite has been left with temporary fittings of very good design, but an elaborate permanent reredos has always been contemplated. The present design is for purposes of a war memorial, and the vicar, the Rev. R. Bruce Cornford, has worked out the symbolism in collaboration with the architect. The panels of the reredos are illustrative of the triumph over death. Below are the expulsion from Eden and the entombment, in the middle tier are martyrs worshipping the Mystic Lamb, above is Christ Triumphant with attendant archangels. The panels on the side walls have historical scenes, St. Martin, the Martyrdom of Joan of Arc, etc., and terminal statuettes of St. George and St. Nicholas (for soldiers and sailors). On the north wall are a Sacrament house and a chair for the Bishop. The names of the fallen are to be inscribed on the plain panelling at the level of the eye. The architect is Sir Charles A. Nicholson, Bart.

THE "COLISEUM," HIGH STREET, CLAPHAM, S.W.

This elevation shows a reconstruction scheme of the existing cinema adjoining the "Plough Inn," Clapham, for Mr. Wm. Williams, of Albany Mansions, 87, Charing Cross Road, who is also at the head of the syndicate for acquiring the Tivoli site in the Strand. The work will be executed in Bath or Ancaster stone. Messrs. North Robin, of 99, Regent Street, W.1, are the architects.

THE EWAN MEMORIAL HALL, BARNET, HERTS.

Mr. W. Charles Weymouth, F.R.I.B.A., the architect of the Pennyfather Buildings, Barnet, which we illustrated from the Royal Academy last year, also designed the Ewan Memorial Hall, of which we give a photograph to-day. It is in brick and stone dressings treated with individuality, but at the same time in harmony with the adjacent buildings just seen in the picture to the right.

Executed by Sir Goscombe John, a statue of Colonel Lord Niall O'Brien-Crichton-Stuart, who was former M.P. for Cardiff, and who was killed in the war, was unveiled at Cardiff last Saturday.

The strike notices of 500 men employed at Messrs. Duntlop's pottery works, Lambeth, expired last Thursday, but the men have agreed to postpone action for a week to allow the negotiations which have been taking place with the firm to continue. The employees have demanded the revision of the scale of wages, and it is understood that an offer made by the firm is under consideration. Should no agreement be arrived at, the men have received strict orders from their unions to "leave honourably." All work must be finished and the kilns must complete their jobs before striking.

PRESTAC.

Many readers will welcome the cheap but very effective compound, now introduced, and made by Bell's United Asbestos Co., Ltd., of Southwark Street, London, S.E.1, under the name of "Prestac," which is indeed an ideal material for the instant repair of leaky roofs, skylights, flashings, walls, etc., at a trifling cost, and with little skilled labour. It is made of asbestos fibre and certain gums and bituminous compounds, and can be used to coat large surfaces such as roofs or walls, and also to repair cheaply and quickly cracks in masonry, brickwork, zinc, lead, slate, asphalt, and tiled roofs, skylights and window sashes, flashings, etc., and packing around pipes passing through roofs, walls, etc.

It will be found particularly useful for making temporary buildings waterproof. It remains plastic for very long periods and adapts itself to the movements of buildings due to changes of temperature, etc. Repairs are effective and permanent irrespective of changes of temperature. On the other hand, repairs made with cement or by similar means are only effective for very short periods of time. It is effective immediately it is applied, does not require heating, is



always ready for use, and can be applied successfully in all climates and in all conditions of weather.

It preserves all metals from the action of the weather and from acid fumes, adheres strongly to all kinds of surfaces, including metals.

It is supplied in 5 cwt. casks at 6d. per lb.; 2 cwt. kegs at 6½d.; 1 cwt. kegs at 7d.; 56 lb. kegs at 7½d.; 28 lb. kegs at 8d.; or 14 lb. kegs at 9d. per lb.

Prestac is applied with slight pressure by means of a plasterer's trowel to large surfaces and at least ¼ in. thick; for small surfaces a smaller trowel or putty knife is a more convenient tool. In some cases slightly heating the trowel will facilitate application. When making joints between surfaces under great pressure, wire gauze or similar material should be used with Prestac, as for red-lead joints. In cases where the colour of Prestac does not harmonise with the surrounding surface and appears unsightly, a little cement, chalk, or other similar material powdered over the surface and trowelled into Prestac will improve the appearance.

For engineering work Prestac can be forced into position under pressure by means usually employed for grouting, and will form a very satisfactory elastic joint or lining.

Mr. Albert C. Freeman, C.E., has taken into partnership Mr. W. Oswald Wright, D.S.O., the firm to be known as Freeman and Wright, with offices at King's Cross, after September 1.

Mr. William Hunt has commenced his duties as superintendent of Holyrood Palace, in room of the late Mr. F. H. Parsons. He was foreman at Buckingham Palace, and has been on the staff of the Royal Household since 1880.

The Kent County Council has received an estimate for the erection of four six-roomed cottages for the married staff of the County Industrial School. The estimate of the cost of erection is £3,500, there being no charge for the site, as it was proposed to build on the Council's own land.

SPEEDING UP THE MANUFACTURE OF CONCRETE PIPE WITH COMPRESSED AIR.

By F. A. McLEAN.*

For many years the makers of concrete pipe have been content to turn out their product by hand, which has been due probably to the supposed high cost of the necessary power-driven equipment, and the fact that the quality of the hand-made pipe was apparently considered to be good enough, inasmuch as they always appeared to be able to sell what they produced. As a result of the rapid advances made in engineering and construction during the last few years, there has developed a demand for a high-grade concrete pipe of uniform density, capable of standing up and giving reliable service under high pressures, which has led many of the more progressive manufacturers to apply the pneumatic sand rammer to their work. Pneumatic tamping has enabled these manufacturers to produce a pipe of much higher quality than was possible by hand, thus making it of more commercial value and largely increasing the market of their product. Another point in favour of the manufacture of the pipe pneumatically is the fact that it has made possible a much higher

fastened a short length of ½ in. hose leading to the rammer.

The mould consists of two sheet-iron forms, the inner one made collapsible and the outer one made expandable, to ensure their easy removal from the finished pipe. The forms rest on a sheet iron plate over a centering ring, which holds them both.

A removable funnel is clamped to the outside form to guide the concrete into the mould. A slightly dry mixture of cement is used, and it is tamped continuously while being filled, which takes about forty seconds in the case of a ten-inch pipe. When the mould has been completely filled and thoroughly tamped with the pneumatic rammer, the funnel is taken away, and two flat iron rings are slipped over the inner form, which serve to pack the cement at the top and form a good joint for connecting the pipe when in the field. The inside form is then withdrawn and the mould carried to a place for drying, where the outer form is taken away and the pipe is left to set, standing on the lower ring, and the upper ring is allowed to remain to preserve the curvature. Two men are able to perform this entire operation in approximately two minutes, and if four men and two moulds are used, it is possible to turn out a complete pipe every minute.

OPERATED BY UNSKILLED LABOUR.

The pneumatic rammer is a very simple and sturdy little machine, easily operated by unskilled labour, and built to stand up under hard usage. All moving parts are amply protected against dust and dirt; the throttle is conveniently located for the operator, and gives positive control of the tool at all times, and the entire outfit is compact and self-contained.

In the manufacture of a 12 in. x 1½ in. x 24 in. concrete pipe, the operator, using a pneumatic rammer, will encircle the mould from fifteen to twenty times during the forming of each length of pipe, and will deliver an average of approximately 575 hammer blows every 45 seconds. Comparing this speed with that of hand tamping averaging about one blow per second, it may be readily seen that pneumatic tamping is more than twelve times as fast as hand tamping.

INCREASES PRODUCTION.

Taking into consideration that the blows delivered by the pneumatic rammer are more powerful and of a uniform force, controllable at the will of the operator, and that the physical requirements on the part of the operator are so slight as to enable him to maintain his maximum working speed during an entire day without becoming tired and "soldiering on the job," the possibilities for increased production are readily seen.

The three principal advantages of pneumatic ramming in the manufacture of concrete pipe are:—

1. Considerably more pipe can be turned out each day.
2. A superior grade of pipe having greater density and uniformity can be made.
3. The absence of physical strain on the operator and the use of a cheaper grade of labour than is possible with the old methods.

Many of the features which are essential in a high-grade concrete pipe are common to other forms of concrete construction, and when the public becomes better informed in regard to the merits of these little machines for this class of work we may expect to find them working on many other jobs which are now being done by slow and back-breaking hand labour.

Major Astor, questioned by Major Prescott (Co., U., Tottenham), said last Thursday the Minister of Health was considering the composition of a suitable body to inquire into the administration of the Metropolitan Water Board, and he hoped to set up this body very shortly. It is badly wanted.

Mr. Robert Donald has acquired the interests of Mr. Dudley Docker and others in the *Globe*, and he will take over the direction of the paper in a short time. It will be conducted on independent lines, at once popular and really patriotic, and we congratulate the readers of our old contemporary, and the many thousands shortly to be added to them, on its return to the status of a leading London paper.

production per man, resulting in a consequent lowering of the cost of each unit of pipe produced.

The results secured by the manufacturers who have installed compressors and pneumatic rammers have been very gratifying. The installation of an air compressor not only provides for the perfect tamping of the concrete mixture mechanically and pneumatically, but offers an economical source of power to operate chipping hammers, portable grinders, plug drills, stone dressing tools, air hoists, or to drive the concrete mixer itself by means of a stationary air motor. If the output is large enough to warrant the expense of extra equipment, a thorough modernisation of the plant may be secured by arranging for the pneumatic conveyance of the concrete from the mixer to the moulds.

While some users may desire to vary the equipment to suit their particular needs, the essentials of a successful plant are practically the same, and usually consist of a small air compressor, about 6 in. x 8 in. (driven by steam, electricity, or gasoline, as may be most convenient), furnishing power to drive two rammers with one held in reserve.

RAMMERS COUNTERWEIGHTED.

The pneumatic rammers are usually counterweighted and hung from a small crane (made from ordinary iron pipe) on which the counterweight slides, so that the only physical requirement on the part of the operator is to guide the tool around the form containing the mixture to be tamped. The tamping tool is made from a piece of ¾ in. iron pipe fitted with a tapered socket at one end, to fit the rammer, and bearing on the other end a shoe curved so as to conform to the radius of the pipe under construction. A convenient method of connecting the air supply hose is to lead the supply pipe from the compressor to the base of the crane, and attach a reducing coupling to the top of the crane, to which is

*Canadian Ingersoll-Rand Company. From the *Contract Record*.

WHY SOME HOUSING SCHEMES ARE DELAYED.

The Henstead Rural District Council, at its meeting at Swainsthorpe on Tuesday week, protested strongly against the delay on the part of the Ministry of Health in approving building sites suggested by the Housing Committee of the district. It was reported that negotiations were still proceeding for the acquisition of certain additional sites. The Deputy Clerk (Mr. R. Jones) added that certain sites had been visited by the Commissioners' representative as far back as June 24, and since then nothing had been heard of them, and not a single site had been approved. The committee had discussed the matter and suggested that a letter should be forwarded to the Housing Commissioners, and the Ministry of Health protesting against the delay in approving sites already submitted.

The Chairman: Has the committee decided on the kind of house they are going to build?

Mr. Jones: No, they have not passed any plans yet.

Mr. L. Todd: We shall not have any houses built this year.

The Chairman: I didn't think we should.

Mr. A. Walker, speaking as one of the Housing Committee, said the members felt that they were working and doing nothing. Meetings of the committee were numerous, and when they looked round and saw they had not got a brick laid he could assure them the committee felt heartily disgusted. Long before the war was finished they were trying to make preparations for building, and the District Council was one of the first to take the matter up. The committee had been working the best it could to press things forward, and yet there they were without a brick laid and no idea of when they were going to get anything done. He did not anticipate anything being done this summer, and whether anything would be accomplished next summer he did not know. Everything seemed to be in a terribly bad plight. He understood not a single cottage had yet been built anywhere under the Government scheme. A big hindrance was the holding up of plans for some weeks. In their case, just at a time when the committee wanted to get on with the work, the officials of the Ministry had withheld approval of the sites for six weeks.

A Member: They are gone to the seaside (Laughter.)

Mr. Walker: They ought to clear out entirely. We are held up week after week because Government officials will not pass our plans. I feel we should take a strong line, and I should like to see this district snapping their fingers at the Ministry of Health and begin to build. They cannot stop us. I think the council will be well advised to start and go on with the work. I move we pass a resolution protesting against withholding approval of the sites.

Mr. C. J. Brighton, in seconding, said he was disgusted with the way in which the committee had been handicapped in its work. People were complaining because a start had not been made by the committee and council, and it was not their fault at all. He also thought the council should make a start on its own.

Mr. Foulger supported the protest, and said after the committee had selected sites and the architects and Commissioners had approved, the matter was then handed on to the Ministry of Health, who would probably never see the sites and knew nothing about them. If the Government admitted such a weakness he thought the whole thing disgusting. He felt it was a mere farce to wait for the approval of the Ministry of Health. The members of the committee gave their time and money week by week, and then some big official with a big salary came down and vetoed all their work.

Mr. Jones said in two cases sites were given, so that the Ministry could not be concerned there about prices.

The Rev. E. E. Ward: Cannot you proceed on the land that is given?

The Chairman: Not without you get sanction. Have you got the bricks yet?

Mr. Jones: No. We arranged with Messrs. Lacey and Lincoln for a supply of bricks, and then got a letter telling us we must apply

through the Ministry of Munitions, who will purchase bricks on our behalf. (Laughter.)

The Chairman: Have Lacey and Lincoln got any bricks?

Mr. Jones: They said they could turn out 600,000 this year.

The council unanimously agreed to support the protest.

HOUSING SOCIETIES' FAILURES.

The Public Works Loan Commissioners, in their annual report, issued last Thursday as a White Paper, 123, price 3d., state that during the financial year 1918-1919 they made 35 advances for sums amounting to £122,226, as compared with 71 advances amounting to £316,517 in the previous year. Of the sums advanced, £69,814 was advanced on the security of local rates and £52,412 on the security of property. The advances were made at an average rate of interest of £4 9s. 7d. per cent., as compared with an average rate of £4 11s. 11d. per cent. for advances made in the previous year, and £3 10s. 10d. per cent. for advances made in the year 1913-14.

The Board report that on October 31, 1912, they granted to the Swansea Valley Co-partnership Housing Society (Limited), a public utility society, a loan of £37,246 to erect houses for the working classes at Clydach, Glamorgan, and Ystradgynlais, Brecon, such loan to be secured on a first mortgage of the property, and to be repaid in 40 years with interest at 3½ per cent. per annum. On June 17, 1913, the Board advanced to the society the sum of £2,950 on the security of 18 houses at Clydach, and on February 17, 1915, the sum of £4,209 on the security of 22 houses at Ystradgynlais. In June, 1918, the society fell into arrear in making repayments due under this Board's mortgages, and the secretary of the society reported that, owing to the closing down of the collieries near Ystradgynlais, a number of the cottages were vacant, and there were not sufficient funds in hand to make the payments. The Board entered into possession of the property on August 29, 1918.

On August 19, 1915, the Board granted the New Eltham Cottage Society (Limited) (in liquidation) a loan of £6,746, to erect 42 dwellings for the working classes at New Eltham, Kent, for the purpose of occupation by the workmen of Messrs. Heath and Co. (Limited), manufacturers of scientific instruments, who were engaged on Government contracts. The whole of the sum granted was advanced by instalments, between March 7 and December 27, 1916, and is secured by a first mortgage of the property erected; and the advances are repayable in 30 years from the date of each advance, with interest at 4½ per cent. per annum, by half-yearly instalments by way of annuity. At an extraordinary general meeting of the society, held August 29, 1917, a resolution for voluntary winding up was passed, the failure of the society being attributed to the liability to the contractor and the inability to raise additional capital. The Ministry of Munitions, in April 1918, intimated to the Board that, while Messrs. Heath and Co. (Limited) were not then in a position to purchase the property, it was very undesirable that there should be a change in the ownership of these cottages, which were erected for the purpose of housing their workpeople, the country being in urgent need of the productions of Messrs. Heath and Co. (Limited); and the Minister of Munitions recommended the request of that firm that the Board should not at that time realise their security.

The Board resolved that, during the continuance of the war, they would refrain from offering the property for sale upon certain conditions, whereby Messrs. Heath and Co. (Limited) guaranteed the payment of the arrears of principal and interest due to the Board, and the future payments due under the Board's mortgage as the same fell due. All arrears of principal and interest have been paid.

The Kent Education Committee propose proceeding with the enlargement of the Sevenoaks Grammar Schools (boys), at a total cost of £19,500.

CEMENT TRADE FUSION.

Closer union of the Associated Portland Cement Manufacturers (1900) and the British Portland Cement Manufacturers has been receiving the attention of the boards of both companies, and a scheme of joint management has been evolved which will enable substantial reductions to be made in the number of directors and managing directors. The following will be managing directors of both companies under the chairmanship of Brigadier-General the Hon. Ferdinand C. Stanley, C.M.G., D.S.O.—viz., Messrs. H. H. D. Anderson, H. K. G. Bamber, Alfred Brooks, A. C. Davis, Alfred Stevens, P. M. Stewart, and Anthony White.

The directors of the boards, in addition to the managing directors will be:—Associated Company directors—Messrs. E. W. Brooks, H. E. Brooks, W. G. Chapman, D. H. Gibbs, Henry Holt, and W. Roch; British Company directors—Messrs. H. E. Brooks, E. C. Charleton, W. J. Cooper, G. E. W. Cranage, H. Le Marchant, and J. E. Plaister. Mr. H. E. Brooks will have special duties principally in this connection. Sir Guy Granet has consented to join the boards of the two companies.

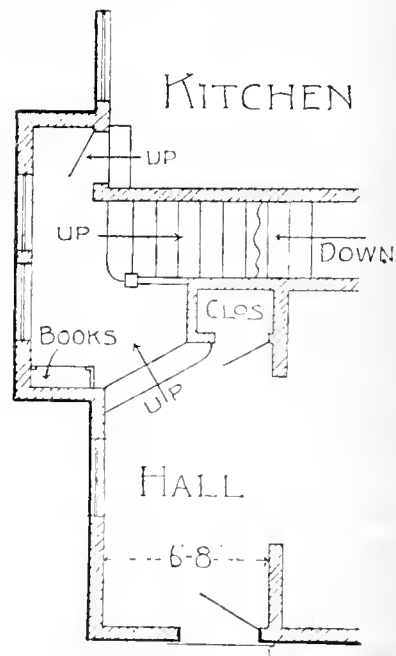
The forthcoming annual meetings of both companies will be held in September. This involves the postponement of the British Company's meeting to a later date than customary, but the preference share dividend has been paid as usual, and, subject to the audit, which has not yet been fully completed, the board will at the annual meeting of the British Company recommend to the shareholders the declaration of a dividend of 8 per cent. on its ordinary shares for the year ended April 30 last.

The respective boards will also recommend to the shareholders at the general meetings that the £10 preference and ordinary shares of the Associated Company and the £10 preference shares of the British Company be divided into £1 shares.

The issued capital of the two companies is:—Associated Company, £4,207,040; British Company, £2,552,622.

COMBINATION STAIRS.

What are known as combination stairs are very popular in many parts of the United States of America. Combination stairs are an economical arrangement whereby the staircase can be reached both from the kitchen and the main hall or living room.



An arrangement is shown in the illustration. The placing of the landing is such as to permit an exceptional sense of spaciousness, which is the main attraction in this arrangement. The bookcases give a sense of homelikeness that is interesting. The double windows afford plenty of light.—*Building Age* (New York).

THE INDUSTRIAL COUNCIL FOR THE BUILDING INDUSTRY.

(BUILDING TRADES PARLIAMENT.)

A meeting of the above council will be held in the Institute, Central Square, Hampstead Garden Suburb, London, N.W.4, on Thursday and Friday, August 14 and 15, at 10.30 a.m., for despatch of business as per agenda below.

AGENDA.

1. Notice convening the meeting.
2. Minutes of last meeting and matters arising.
3. Treasurer's report and accounts.
4. Receive reports, if any, of council committees, and if thought proper resolve thereon:—

(a) Resettlement and Demobilisation Committee;

(b) Educational Committee;

(c) Management and Costs Committee;

(d) Welfare Committee;

(e) Administrative Committee.

5. Receive, and if thought proper resolve upon communications, if any, from—

(a) Ministry of Labour.

(b) Education Department.

(c) Home Office.

(d) Local Government Board.

(e) Any other Government Departments.

(f) Any other correspondence.

6. Consider revised draft rules for the formation of district councils, and resolve thereon. (Copies herewith.)

7. Consider as to what steps should be taken to give greater publicity to the work and deliberations of the council.

8. Consider the following proposal to amend the rules of this council, of which due notice has been given:—

That Rule 13 of the constitution be amended to read as follows:—

The council may delegate special powers to any committee it appoints.

The council shall, at the request of the majority of the representatives of any particular sub-trade represented on the council, appoint a sectional committee for such sub-trade. Such committee shall consist only of representatives of that sub-trade, and shall have power to come to final decisions on any matters of interest to their trade, including matters referred to them by Government Departments, subject to the right of the Industrial Council for the Building Industry to veto any decision that may be found to involve the interests of any other sub-trade; provided that—

1. The council may, in lieu of appointing such sectional committee, recognise as fulfilling the functions of such committee any existing National Joint Sub-Trade Council the constitution of which is approved by the Ministry of Labour, and which contains among its members the representatives of the sub-trade on the Industrial Council.

2. Copies of all communications to and from Government Departments to such sectional committee or sub-trade council shall be sent at the same time to the Industrial Council.

3. Copies of the agenda and the signed minutes of every meeting of the sectional committee or sub-trade council shall be forwarded to the Industrial Council within 14 days of each meeting.

9. Consider communication from the Royal Institute of British Architects re the recently-appointed Building Industries Consultative Board.

10. Any other business that may be presented by the chairman.

The nearest station to the place of meeting is Golden's Green Tube Station, about ten minutes' walk.

SUPPLEMENTARY AGENDA.

- 4.—(a) Report of the Resettlement Committee, enclosed herewith.

- 4.—(c) Management and Costs Committee. The adoption of the report of this committee will be moved by Mr. T. Foster and seconded by Mr. Wm. Cross.

Mr. S. Smethurst will move as an amendment:—

"That the council receives the report, but,

before taking any action thereon, requests the committee, augmented, to go into and report on—

"First—The question of the effect upon production the proposals will have if carried into effect;

"(a) By the withdrawal from industry of a large non-productive staff such as will be required to work such a huge organisation;

"(b) By what is essentially a bureaucratic treatment of the building trade, having regard to the complicated nature of the industry.

"(c) By the destruction of initiative and responsibility for results, by the removal of incentive by way of gain for well-doing, which would seem to be the natural result of applying the principle of the report.

"Secondly—To enquire whether all classes of the community will not be benefited and best served by maintaining our present competitive system of carrying on enterprise and industry unhampered by a paralysing control. And if it is also not true to say it would produce the best results for the nation with the least waste of labour and effort.

"Thirdly—To enquire if it is not the fact that the best interests (as far as material things are concerned) of all classes in the community will be best secured by everybody producing to their utmost capacity, consistently with not suffering physical harm; and, conversely, if it is not a fallacy to assume that the real interest of any large class can be served by limiting production; and further to enquire whether any large class has not had a fair share of the produce of their industry, and if so, to report on the best means of providing a more equitable way of remedying such unfairness.

"Fourthly—To enquire how far a limitation of output, by creating scarcity, is responsible for the present high prices of the commodities in common use; and whether such high prices, although being of no advantage to the worker, may not put in jeopardy our overseas trade, upon which the very life of the nation depends."

9.—(a) Elect a chairman for ensuing twelve months.

(b) Elect a vice-chairman for ensuing twelve months.

(c) Elect an hon. treasurer for ensuing twelve months.

(d) Elect joint secretaries for ensuing twelve months.

(e) Elect an administrative committee, consisting of ten employer and ten operative representatives.

The names of the present committee are:—
Employers: Messrs. S. Easton, T. Foster, E. J. Brown, S. Smethurst, H. Willecock, J. P. Cox, E. Bruce, T. Graham, J. Cantrell, J. Allinson, jun.

Operatives: A. McDougall, J. H. Edmiston, A. Gardner, W. Williams, R. Wilson, T. Otley, W. Cross, P. Flanagan, H. Piper.

The officers are members ex-officio.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes received by the Ministry during the week ended August 2 from local authorities and public utility societies is 211. The total number of schemes submitted is 3,797, representing an area of about 41,000 acres. At the average rate of ten houses to the acre, this area is sufficient for 410,000 houses.

The rural authorities are responsible for the majority of the schemes submitted during the week. Of the London authorities, the Kensington, Islington and Stepney Councils submitted small site-schemes. The Ministry have approved the site of 354 acres on the Page Estate proposed to be purchased by the Woolwich Council.

Measures are being taken by the Ministry to prevent avoidable delay in the clearance of slum areas. In each of the housing regions into which the country has been divided for administrative convenience a Deputy Commissioner, provided with the necessary staff, and working through the local authorities and their medical officers of health, is to devote himself solely to work for the amelioration of the slum problem.

Some publicity has been given to cases in

which it is alleged that housing has been delayed owing to the intervention of the Ministry after the local authorities have provisionally agreed with landowners as to the price to be paid for the land required for housing schemes. The position of the Ministry may be shortly stated. Quite apart from any consideration of the financial aid given by the State, it is clearly the duty of the Ministry to secure economies wherever possible. In order to ensure that excessive prices shall not be paid for land, they require every local authority to consult the District Valuer of the Land Valuation Department regarding the value of the land proposed to be purchased. In the majority of cases local authorities are able to obtain the land they require at satisfactory prices by agreement. Where dispute has arisen negotiations have been undertaken by the valuation officers, and such negotiations had been completed in 300 cases up to the end of July. The total of the sums provisionally agreed upon or asked for these sites was £587,927; the valuation by the Government valuers was £416,800, and the price finally agreed to be paid £444,677. This represents a saving effected of £143,250. The area of these sites is approximately 2,321 acres, and the above figures represent a saving of £61 per acre, or nearly a quarter of the amount demanded.

The Tynemouth Corporation are proposing to buy some hostels erected for the Admiralty in their district. The hostels were constructed with the possibility in view of their ultimate conversion into flats, and the corporation's plan is to use the hostels as dwellings for the working classes. The hostels are centrally heated and fitted with electric light, and it is estimated that there will be sufficient room for forty-four dwellings.

WOOD AS REINFORCEMENT FOR CONCRETE.

Concrete slabs reinforced with wood have been manufactured on a large scale by a Berlin company under the trade name "Tekton," and covered by patents belonging to Hengerer. They consist of magnesia concrete with a base of sawdust or clinker and wooden tension members previously treated with putty. Coniferous wood is generally used for this purpose; but it is claimed that reeds and other fibrous substance may be substituted, especially when the material is used for floors, panels, and rafters.

The Tekton floor plates are in slabs 11 ft. 6 in. long by 15½ in. wide, and 5 in., 1 3-16 in., 1½ in., or 1¾ in. thick, either with or without surface grooves, but grooved and feathered laterally to ensure tightness. They are also suitable for roofs, and being strong and good non-conductors can be used without boards. The weight varies from 2½ cwt. per 100 sq. ft. for the 5 in. thickness to 6½ cwt. for 1¾ in. thickness, viz., the slabs are lighter than other roofing materials.

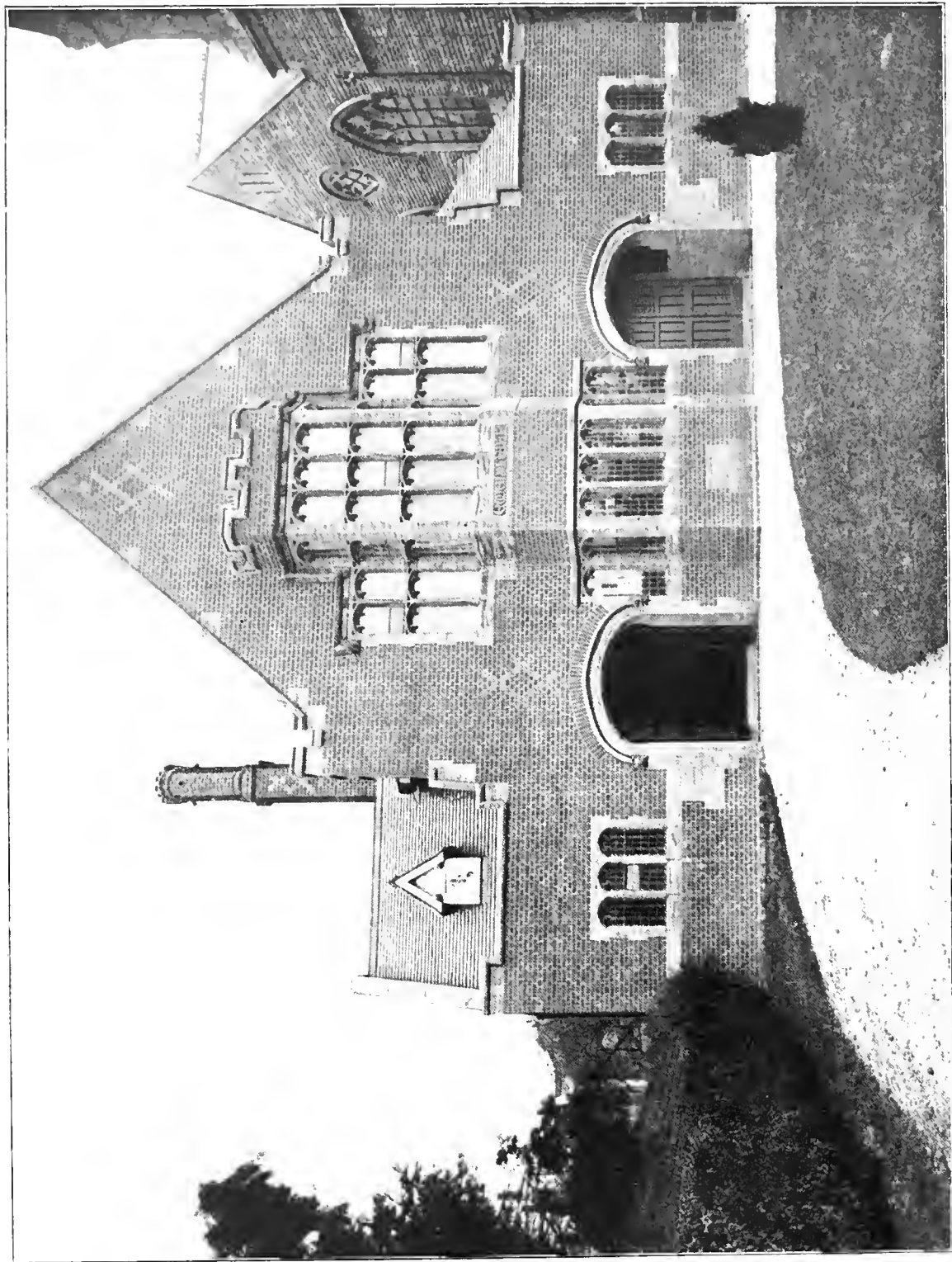
Experiments have proved Tekton floor slabs to be practically fireproof, and that slabs 1 3-16 in. thick, laid with a span of 2 ft. 7 in., will carry a weight of three tons, equal to a load of 17½ cwt. per sq. ft., before rupture takes place.

Slabs which had been exposed to weather for five years were sawn through and the wood reinforcement was found perfectly clean and sound, it being claimed that the magnesia cement affords complete protection to the wood and sawdust.

A good watertight floor can be made by first placing slabs in position and then render them with special magnesia cement mortar.—Translated by the *Technical Supplement to the Review of the Foreign Press* from *Beton u. Eisen*, June 4, 1919.

The Fifth Church of Christ Scientist, New York, propose to erect a twenty-story church building on the site of the old Bartholomew's Church, at the corner of Madison Avenue and Forty-Third Street. It is said that the building will cost 4,000,000 dollars, and it is to contain, besides the auditorium and rooms for the various church activities, a large number of offices to be rented for business purposes.

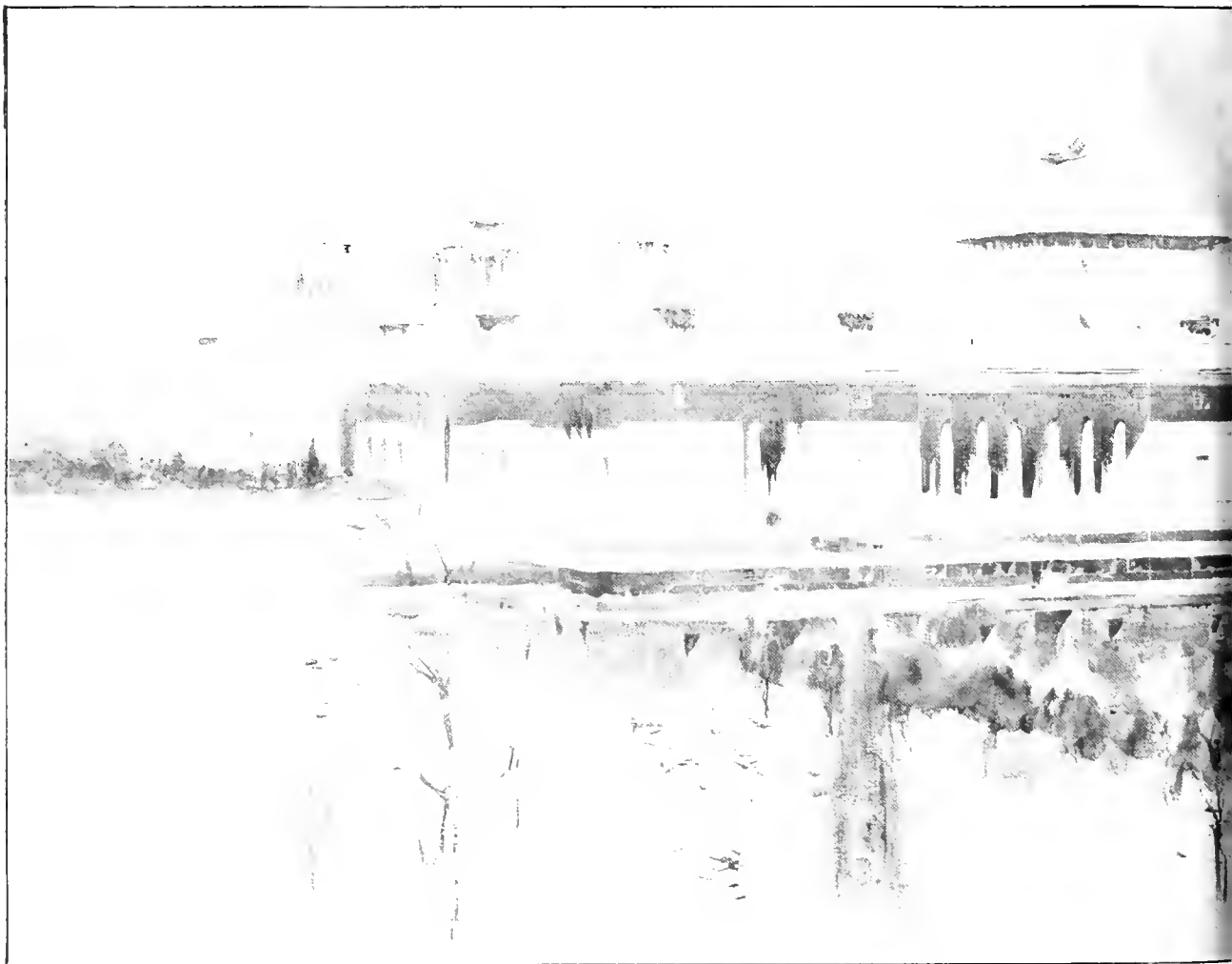
THE BUILDING NEWS, AUGUST 13, 1919.



THE EWAN MEMORIAL HALL, BARNET, HERTS.
Mr. W. CHARLES WEYMOUTH, F.R.I.B.A., Architect.

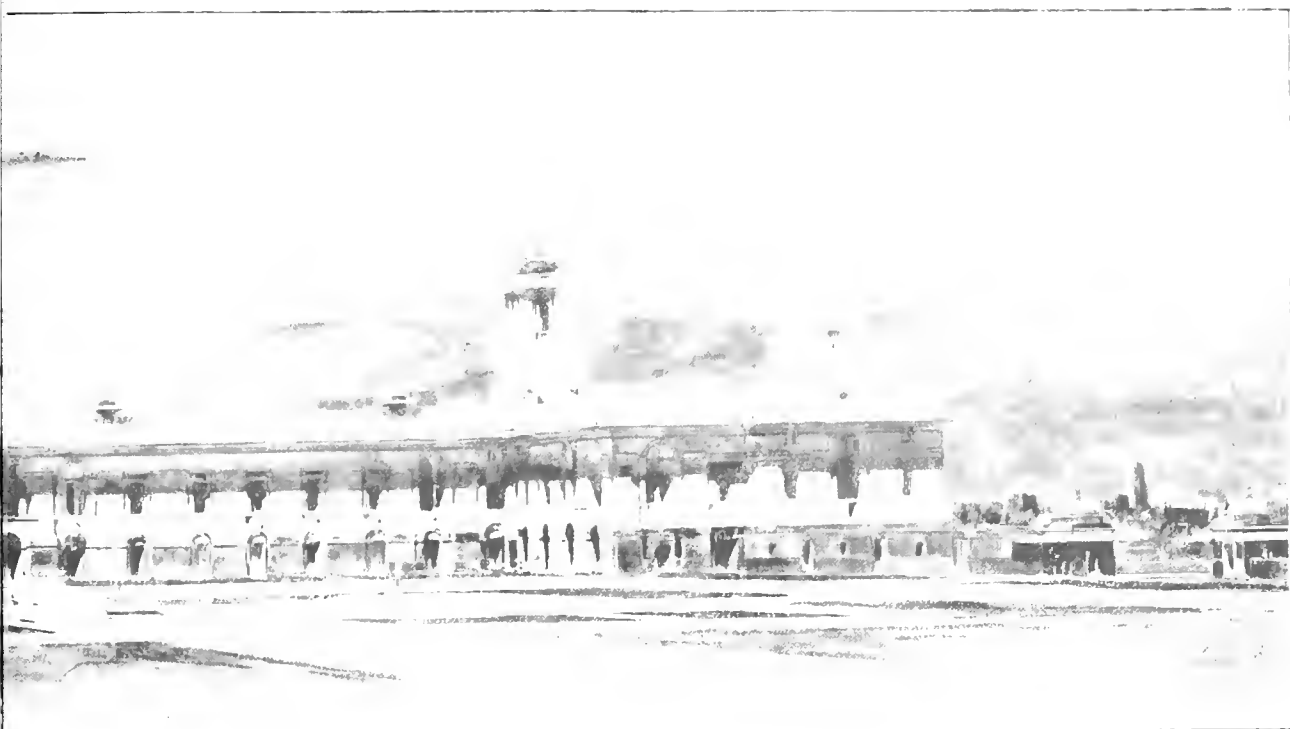


GOVERNMENT HOUSE, NEW
Sir Edwin L. L.



GOVERNMENT HOUSE, NEW
Sir Edwin L. L.

AUGUST 13, 1919.



LHI : THE GARDEN SIDE.
A.R.A., Architect.



I : THE SOUTH ELEVATION.
A.R.A., Architect.



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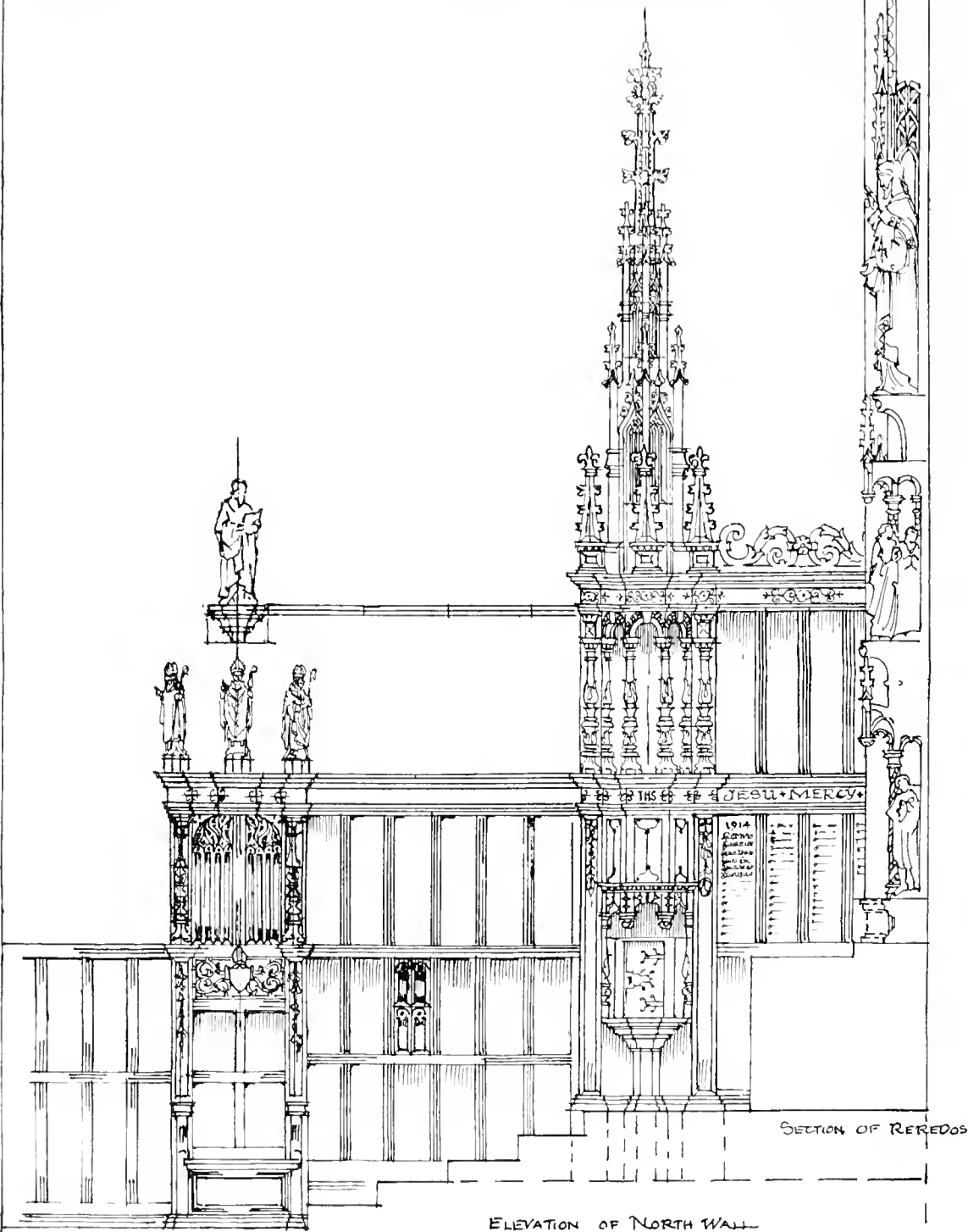
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SAINT MATTHEW'S PORTSMOUTH
DESIGN FOR MEMORIAL REREDOS

HALF INCH SCALE

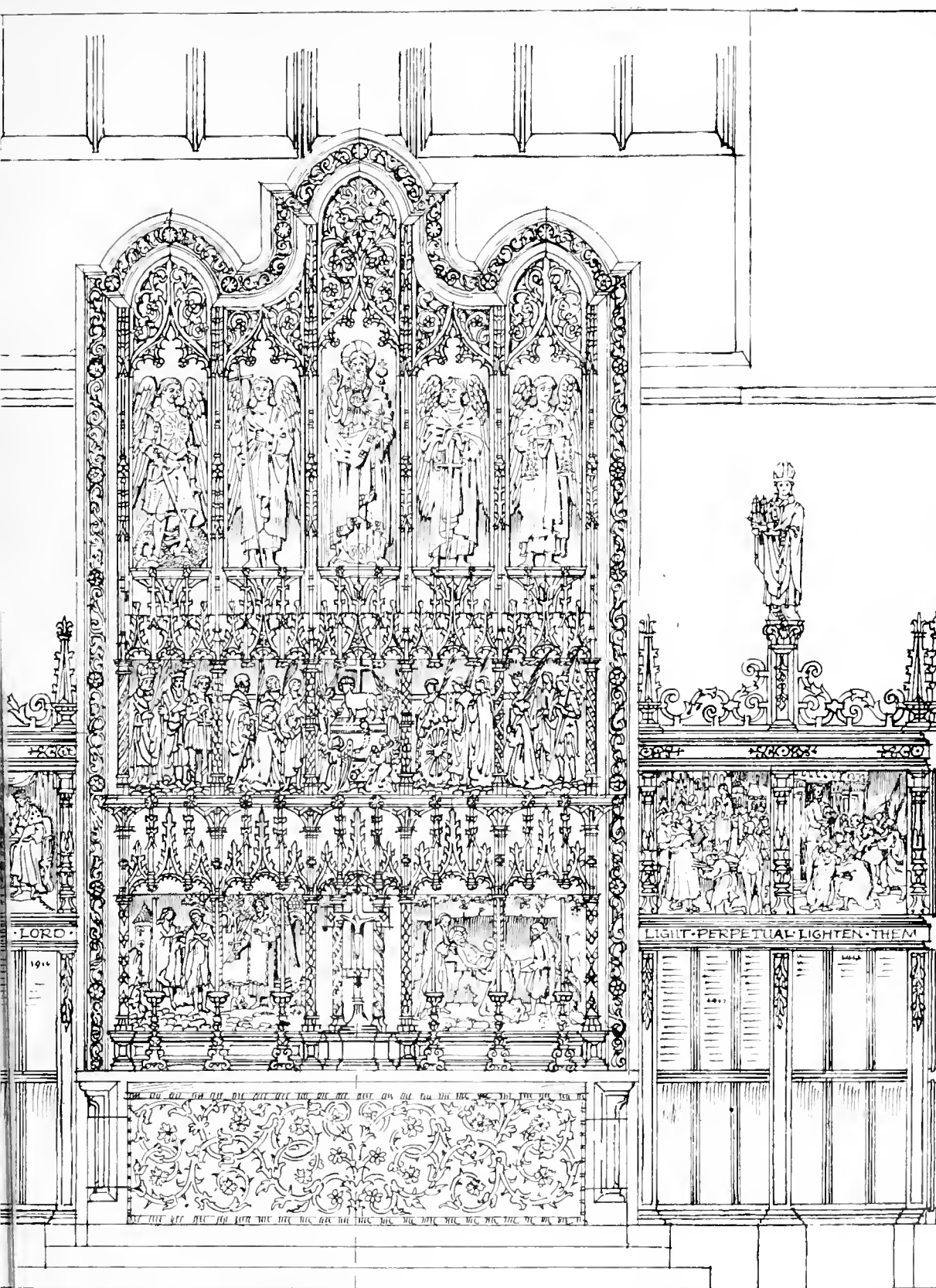
Charles A. Nicholson Archt:
2 New Square Lincoln Inn W.C.
6 Jan 1919.

SCALE $\frac{1}{2}$ " = 1' 0" 1' 2' 3' 4' 5' 6' 7' 8' 9' 10' 11' 12' FEET



MEMORIAL REREDOS, CHURCH OF ST. MATTHEW, SOUTH

S. AUGUST 13, 1919.



ELEVATION OF REREDOS

SIR CHARLES A. NICHOLSON, Bart., M.A.Oxon, F.R.I.B.A., Architect.





BIRMINGHAM'S HOUSING PROBLEM.

BUILDERS' SCHEME PLACED BEFORE THE COMMITTEE.

The procedure adopted by the Birmingham Housing and Town-planning Committee in regard to the provision of houses has been severely criticised by various sections of the community. Among the complaints made against the committee is that they showed lack of foresight in not discussing with the master builders questions of specifications, tenders, and the actual building of the houses. On May 14 Mr. H. Eyles, acting on the instructions of the Executive Council of the Birmingham Building Trades Employers' Association, waited upon Mr. Turner, of the Housing and Town-planning Department, with a request that arrangements be made to discuss with the committee a proposition which was then outlined. A fortnight later Mr. Eyles telephoned Mr. Turner, and enquired whether a day could be fixed for the deputation to appear before the committee. No such arrangement was arrived at, and on July 22 a communication was sent to Mr. Turner embodying a definite proposition by the Master Builders' Association, and repeating the request to receive a deputation to consider the matter. The communication stated that, having regard to the fact that the prices of materials and labour involved in the erection of houses were definitely known quantities the only thing as to which there could be competition was the profit of the builder. It was suggested it was desirable, in the interests of the scheme, to arrive as speedily as possible at a basis price for the houses, and it was suggested the method of competitive tenders was not the method which was best calculated to afford for the Housing and Town-planning Committee a workable basis price. The alternative put forward was that the association should be invited to appoint a person to price in a bill of quantities, and that the Housing Committee should appoint another person to price in a bill, and that a conference should then be held with a view to arriving at a basis price which would commend itself to the Housing Committee and the builders. The view was expressed that if such a method were adopted, many important builders, who were not normally interested in house building, might readily be induced to take a hand in the erection of the houses in the national interest who would otherwise not be at all likely to send in competitive tenders.

BUILDERS WILLING TO ASSIST.

At the last meeting of the City Council, Mr. Siward James, chairman of the Housing and Town Planning Committee, intimated he was prepared to receive a deputation of the master builders. This deputation waited upon the sub-committee last Friday.

Mr. F. G. Whittall said there were many builders in the city who were not normally house builders. In order to assist the municipality these builders were quite prepared to assist in making the housing schemes a success if a reasonable basis price for the houses could be arrived at.

The sub-committee decided to forward to the master builders two sets of quantities and plans, and information as to any modification made by the Ministry of Health in existing plans; and, further, any model specifications issued by the Ministry, together with a schedule of prices, in order that these might be considered by the Federation, and the work priced in detail. A basis price will then be submitted. The housing and town planning surveyor will confer with the Federation if necessary.

The deputation were informed that as the Ministry of Health had not yet decided what modifications would take place, and also, as the model specification had not been decided upon, the necessary particulars could not be forwarded to the Federation at present.

The deputation expressed their willingness to submit to the sub-committee a basis price, together with the names of builders who would be prepared to erect houses at that price, and the number of houses they could contract for.

"A large and influential deputation, and quite a useful discussion took place," was the

comment of Mr. Siward James to a representative of the *Post*.

A TENANTS' DEPUTATION.

A deputation representing the Birmingham and District Tenants' Federation waited upon the sub-committee, and urged the immediate erection of houses. Mr. W. Ellis, the president of the Federation, said the demolition of houses should be suspended until there was a surplus of accommodation. He urged that existing houses should be repaired and made habitable, and that the number of houses erected by the municipality as a first instalment should be equal to the number of applications received by the Corporation. He further said the Federation advocated the building of houses by direct labour, and that there should be 35 houses to the acre instead of 10, as at present proposed.

Mr. Norman Dean, president of the Duddeston and Nechells Tenants' Association, urged that the present insanitary houses should be put into proper repair; that no houses should be demolished until there was adequate accommodation available, and that the Corporation should proceed to build upon available land with all possible speed.

Mr. Siward James informed the deputation it was not the policy of the committee to demolish houses until there was adequate housing accommodation; in fact, the committee were using their influence to prevent demolition of dwelling houses for factory extensions or any other purpose. They were most anxious to get on with the building of houses, but the committee were held up by the Ministry of Health, and he intended writing to the Ministry without delay.

DESIGN IN HOUSING AND TOWN PLANNING.

Mr. William E. Sanders, of Messrs. Sanders and Church, A.R.I.B.A., of 118, Camden Road, N.W.1, has issued a suggestive and readable pamphlet, price sixpence post free, offering a solution of the problem of housing and town planning on lines introducing the essential qualities of good-class country residences into the homes of the general community. Mr. Sanders recently read a paper on the "New Economic Centre" at the St. Pancras Labour Party and Trade Council, at which a resolution was passed endorsing his ideas, and strongly recommending his scheme to the Ministry of Health.

The defects Mr. Sanders proposes to obviate are obvious enough to all. He cites the following as a few:—

1. The alignment of houses to the streets or public ways, universally ranging them in two parallel rows, one on either side of such street.

2. The resultant limitation of house frontages on economic grounds, even when good size areas of land are provided.

3. The necessary extension of general public roadways to provide frontages and access to the houses.

4. The large proportion of ground area absorbed by roads, and the consequent destruction of much natural beauty, apart from the enormous cost of constructing main roads to accommodate a limited number of houses.

The following are the drawbacks (artistic and hygienic) to these methods:—

1. The roads present the appearance of being lined or walled in, curtained or confined by houses.

2. Free through circulation of air is prevented, even in better-class neighbourhoods, spaces between houses being limited.

3. The limitation of open views and prospect of the neighbourhood, both from the street and from the rear of the houses.

4. The uncomfortable close-range view into the lower windows of the houses from the street, and *vice versa*, and the disagreeable rebound of heat from the walls in the hot weather.

5. The badly proportioned shapes of the plots, due to the necessity of reducing frontages to the roads to a minimum.

6. The restriction in regard to improved house planning, and impossibility of good class bungalows, imposed by a limited

frontage. (Wide frontages are necessary to plan the best types of houses.)

7. Monotonous similarity in shape and arrangement of all plots and houses, namely, a forecourt or front garden adjacent to the street, and a garden at the rear of the house.

8. The general effect is a consciousness of being amidst rows or ranges of houses, the ever present idea of a line, curved or straight, suggestive of a regiment of soldiers, a sense of dwellings being packed or concentrated together into one situation, rigidity, formalism, fixity and lack of freedom.

9. The limitation of possibility to beautify roads by the provision of trees on either side, in consequence of inadequate room to grow good size trees in the limited forecourts of houses, often necessitating the provision of trees in unsuitable and inconvenient positions in the road to meet this defect, or otherwise the provision of extra width of roads to provide the requisite space at increased cost.

"ECONOMIC HOMESTEAD CENTRE" METHOD SOLVES THE PROBLEM.

This is rendered possible Mr. Sanders claims by the "Economic Homestead Centre" method of design, which embodies the following principles:—

- (a) That houses are widely distributed or spread out over wide spaces of land between the general public thoroughfares.

That the public thoroughfare is not a desirable position for the residence, but on the contrary, the houses should be set back from it, in order that privacy, seclusion, and freedom from road dust and noise may be enjoyed, as in present good-class country residences.

That, in a word, the proper position for a house is on the land, and not on the street.

- (b) That the shape of the homestead plot should be varied and proportionate, and should not consist of the narrow-fronted oblong or strip, at present almost universally adopted.

- (c) That existing natural views and features of interest, beauty or attractiveness must be retained, and the houses suitably and harmoniously grouped in a free and open manner, preserving wide and varied prospects or beauty of vista from all positions. This is achieved by the homestead method of wide open spaces between the groups of houses: the utilisation of the interior land in a natural way for the accommodation of the houses and their plots, instead of crowding them upon a thoroughfare.

- (d) That a general picturesque, homestead, close or garden appearance must be attained, as well as seclusion and privacy by the planting of hedges, trees and shrubs.

- (e) That the roads should be beautified by the planting of trees on either side, in addition to preserving those already existing.

The method by which these objects are achieved is shown by the various illustrations or plans.

RARE ELEMENTS AS PAINT PIGMENTS.

By HENRY A. GARDNER.

Many of the rarer elements that heretofore have had little industrial application received much consideration during the war-time period. It is probably safe to state that many of them will be used as the basis of preparations destined to become of great importance in the arts. Their possibilities as pigment bases, for instance, has for several years engaged the writer's interest. Among the more obscure or not commonly known metals that he has experimented with are molybdenum, cerium, lanthanum, selenium, thorium, titanium, tungsten, uranium, vanadium, zirconium, beryllium, and radium. Nearly all of the above metals, in the form of their respective insoluble compounds, have a high refractive index, and consequently produce, when ground with oil, very opaque mixtures having a hiding power comparable with lead or zinc pigments.

From the standpoint of war-time usage, radium pigments have been of the greatest interest; substantial quantities having been used and with most successful results on the dials of altimeters, air speed meters, and

similar aircraft instruments, and on other military paraphernalia used in modern warfare. The radium may be applied as a salt to an active or sympathetic base having real pigment properties, such as zinc sulphide. This activated pigment is mixed with a thin, clear varnish that acts as a binder. Only small amounts of radium salts are required in such paints to produce energetic vibrations that send out active radiations in the form of a soft greenish glow. The light produced is sufficient for the result intended. The radium salts used are manufactured largely from carnotite ore mined in Colorado. These paints have almost entirely replaced the old luminous calcium sulphide paints which, although comparatively low in price, depend upon absorption of energy during the daytime when exposed to sunlight. They are of but short life and not intensely phosphorescent. The only substitute for radium is mesothorium, an element found in monazite sand that is mined in certain of our Southern States. This sand is the product from which thorium is extracted for use as the glow base for incandescent gas mantles: as high as 5 per cent. of thorium being present in some American sands and 9 per cent. in some of the East Indian varieties. The mesothorium present in the sand is, like radium, capable of sending out active radiations, and has been used as the basis of some luminous paints. Its longevity is not as great as that of radium.

Selenium, an element analogous in some of its properties to sulphur, which is obtained during the smelting and refining of copper, has had but little industrial application. The writer has prepared several most interesting pigments from it (the selenites of lead and barium, for instance) which are very white and of fine grain. Their exceptionally high refractive index gives to them intense opacity. Other pigments of a closely related nature may be produced from leryllium, an element found as a silicate or aluminate in several Eastern States. The oxide and similar products of zirconium have a very high degree of whiteness, opacity, and permanence. From titanium, an element which is widely distributed, many most interesting compounds have been produced, and it is highly probable that they will some day be used to a great extent as pigments where great opacity, permanence, and other closely related physical properties are desired.

Among the more common elements from which white pigments may be made are arsenic, antimony, bismuth, and tin. The colour compounds of these metals produce black, yellow, and orange pigments that have had but little use. When their salts are precipitated as oxides, oxychlorides, or other basic salts, white pigments of high opacity are obtained. The toxic nature of some of these products and their high price has limited or prevented their use.—*Scientific American*.

Correspondence.

STATE AND PRIVATE ENTERPRISE HOUSING. A PROTEST AND A PLEA.

Sir.—As a surveyor and building estate developer for forty years, and responsible for the laying out of many miles of roads and the erection of thousands of houses in and around London, I venture to draw public attention to this matter.

It is no use going back on the causes which led to the shortage of houses. As is now generally acknowledged, the so-called "People's Budget" was mainly responsible for the stoppage of house building.

A PROTEST.

The Government, now the war is over and the Peace Treaty signed, are pursuing a policy which makes the building of small houses by private enterprise absolutely impossible, and will, if persisted in, for ever kill it. For this reason, I desire to enter an emphatic protest against it, on the following grounds:—

1. That neither the State nor local authorities can produce houses as expeditiously or cheaply as private enterprise.
2. That the purchase by public bodies of

raw building land without roads or sewers, and in many cases without present means of communication, whilst many thousands of vacant plots in accessible districts, fronting made roads with sewers laid and often drains connected, are lying idle, is a wanton waste of public money, and the offence is aggravated by the fact that road and sewerage work is now costing treble pre-war prices.

3. That to set about the ruin of land owners and building lessees, who before the war had supplied 95 per cent. of all the houses built, and during the war have surrendered the land for allotment purposes, in many cases without any payment whatever, is treatment unworthy of a great country, presided over by a Premier who at election time preached the gospel of "National Honesty."

4. That to spend the Nation's money in erecting four-roomed cottages at the cost of £1,000 each or more, and to let them at un-economic rents, involving a loss of from £45 to £50 a year each, is a ruinous and reckless proceeding, especially at a time when the wages of the working classes are 100 to 120 per cent. higher and still rising, and when miners are agitating for higher wages and less hours, and bricklayers who can lay 1,000 bricks a day now consider that to lay 250 constitutes a fair day's work.

5. That the annual loss to the nation is not likely to be less than 25 millions, and the ultimate capital loss in addition 500 millions, an insupportable burden in the present condition of the country's finances.

6. That it is against public policy for the State or local authorities to become landlords of the voters of the country. Labour strikes will be accompanied by rent strikes, and more unrest engendered.

A FINAL PLEA.

Let the Government offer to private enterprise an agreed bonus of from £100 to £200 per house for erecting them to approved plans upon agreed sites, according to size and position, and give a free hand for both selling and letting, and the building trade will at once hurry up and provide all the houses required for the more highly paid artisans and mechanics and others enjoying like incomes, and the shortage of housing accommodation will sensibly diminish in two years from now, or less, the cost to the State being less than one-third under present proposals.

With regard to insanitary slums and overcrowded areas I believe that much might be done in assisting local authorities to exercise the power they already possess for clearing these. Inducements might also be offered to the great housing trusts and companies who in London and elsewhere have done so much to provide healthy and commodious dwellings for the poorer classes.

If the Government are prepared to make a present of £45 or £50 per annum each by way of rent to highly-paid working-class tenants, what about the middle-classes, underpaid and more hardly hit?—Yours truly,

EDWIN EVANS, Surveyor.
253, Lavender Hill, London, S.W.11.

COMPETITIONS.

BOOTLE HOUSING COMPETITION.—Members of the Society of Architects are requested not to take any part in the above competition without first ascertaining from the society that the conditions have been approved by the council.

BOOTLE HOUSING SCHEME COMPETITION.—Members or Licentiates of the R.I.B.A. must not take part in the above competition, as the conditions are not in accordance with the published Regulations of the Royal Institute for Architectural Competitions.—By order of the Council, Ian MacAlister, Secretary, R.I.B.A.

The Select Committee of the House of Commons on Land Values met to choose a chairman and consider their procedure. Sir Thomas Whittaker was appointed chairman, and it was decided to defer the taking of evidence until after the recess. The Committee was appointed to inquire into the present position of the duties imposed by Part I. of the Finance Act (1909-10).

Our Office Table.

Among the applicants to Mr. Symmons at North London Police Court last week was a demobilised soldier, who said he had six children, and an ejectment order against him had expired. He found it impossible to get other apartments. Could the magistrate give him an extension of time?—Mr. Symmons: I am afraid I cannot. Demos holds sway, and under his tyranny everything seems stopped at will. He will not let you have bricks, so the housing shortage is acute; he will not let you have bread so you can go hungry; he will not let you travel, so holidays have to be abandoned; he will not let you have cloth and leather, so you can go without clothing and boots; he will not let you have coal, so the life-blood of the country's industry is stopped. This is the result of the tyranny of the comparative few, and so long as you working men sympathise with those who go on strike it will continue. Why not pluck up courage and say you will stand it no longer?—The Applicant: I have done my bit, and this is how I am served.—Mr. Symmons: This is how you are served by your fellow-men who did not fight.—The Magistrate granted a summons calling on the landlord to show cause why the order should not be varied.

On the eve of the war a deputation from the City Corporation, headed by the then Lord Mayor, Sir Vansittart Bowater visited Brussels, and was entertained by the municipality of that city. The recent occurrence of the fifth anniversary of the visit has been the subject of correspondence between Sir Vansittart Bowater and M. Adolph Max, now Burgomaster of Brussels. The latter writes:—"I know that the wishes you express for the future of my country are those of a true friend of Belgium, and I am particularly grateful for them. I do not doubt that, thanks to the sympathies which surround us and to the energy of our people, we shall be able to repair the disaster of the war. The task is great, and we shall consecrate to it all our forces."

Guildford Town Council the week before last appointed as borough surveyor and engineer Mr. Ernest Minors, deputy borough surveyor of Darlington. Of six applicants selected for interviews from a total of 67 Mr. Minors, who is 37 years old, was the only candidate who had not served in the Army. On the following Saturday the townspeople were to have entertained the local discharged and demobilised men to dinner; but the night before, at a largely attended protest meeting of National Federation members, it was decided to decline to take part in the celebrations "as a protest against the unwarrantable action of the local authority in deliberately passing over the ex-service men and giving the appointment to a man who, although of military age, never did any military service." "This action," the resolution continued, "is a gross breach of the promise so often repeated that the men to whom this country owes its very existence to-day shall be remembered in future. What can be said of private employers who give positions to men who did not serve in preference to men who did, when we see public authorities setting such an example?"

Sir Archibald Davis Dawney, of 4, Cedars Road, Clapham Common, Mayor of Wandsworth since 1908, founder of Archibald Dawney and Sons (Limited), engineers, London and Cardiff, left estate valued at £93,154. Of his 40,446 £1 shares in Archibald Dawney and Sons (Limited) he gave 10,446, after his wife's death, between the Royal Masonic Institute for Boys and the Royal Masonic Institute for Girls; 5,000 shares each to King Edward's Hospital (Cardiff Infirmary), the Putney Hospital, Lower Common, Putney, the Royal Institute of British Architects for scholarships, and the London County Council for scholarships; 1,000 each to the South Wales Institute of Engineering, Cardiff, and the Battersea Grammar School for scholarships; and, on the death of his wife, oil paintings and certain plate to the Wandsworth Borough Council.

A White Paper issued last Thursday states that the expenditure to be incurred under the

Forestry Bill is estimated at £3,418,500, made up as follows:—Scheme for afforesting 150,000 acres by direct State action, £2,245,000; advances to local authorities and private owners, £327,500; purchase and reconstruction of devastated hard-wood areas, £300,000; education, £45,000; research and experiment, £30,000; establishment charges, £446,000; encouragement of forest industries, £25,000.

In their annual report the trustees of the National Portrait Gallery urge the necessity of an extension of the building on the vacant site already allocated. When in 1896 the collection numbered 1,086 the gallery was barely large enough, and since 800 additions have been made. In the near future the trustees hope to add certain large and important groups of persons distinguished for their services in the war, the gift of a generous benefactor. At present there does not seem to be any prospect of the early reopening of the building, which is still occupied by a Government department. In the meantime some forty representative portraits will be exhibited in one of the rooms of the National Gallery.

Dr. Addison will to-morrow (Thursday) open new houses which Hammersmith has adapted from munition huts erected near the White City in the war. There will, it is hoped, ultimately be about sixty self-contained houses, each with two or three bedrooms, a living room, a scullery, and so on. Each house is steam-heated and electrically lighted, and there is gas laid on for cooking. The buildings, which are on wooden piles, are absolutely dry, with fortified wooden walls, well provided with windows, while the door opens on to a verandah across which runs a roof to the family larder. The transformation is neither easy nor cheap. Even with the assessment of the life of the structure for Council purposes at fifteen years, the weekly rent cannot be made economic, though to the tenants who are waiting, to the number of several hundreds, for the good fortune of selection it may appear reasonable. The Council would like, if the terms could be agreed on, largely to extend this system of temporary accommodation, while it has also another large undertaking of the more ordinary type in the southern portion of the borough.

In answer to Mr. Sugden, who asked the Chancellor of the Exchequer to cause instructions to be issued that, where a workman is purchasing his cottage by mortgage on which he is paying interest at, say 5 per cent. clear, if his total income is under £120 a year he shall be charged at the proper rate and not at 6s. in the £, as at present obtains, Mr. Chamberlain says:—"A taxpayer whose total income does not exceed £130 is personally exempt from income-tax. Where he pays mortgage interest on his house, the income-tax chargeable in respect of the interest is collected from him, and he is entitled by law to deduct it from the payments of interest to the mortgagee. In such a case he deducts the full amount of the tax which is charged at the standard rate."

Mr. Bridgeman, asked on Monday by Captain Wedgwood Benn whether he was aware of the difficulty that had arisen with regard to building on small holdings in Scotland and of the fact that cement showed 100 per cent. rise in price, and other building materials similar or greater increases, and whether the Government would now permit the free import of cement and other building materials, replied:—"I am informed by the Secretary for Scotland that the facts as to prices of materials given in the question appear to be correct. The maintenance or modification of the restrictions is under consideration." Colonel Wedgwood (Newcastle-under-Lyme, L.): Is not cement being prevented coming to this country in the interests of shareholders in cement companies? Mr. Bridgeman: As a matter of fact, it is not prevented more than other materials. Mr. Holmes (Derbyshire, N.E., L.): Is the hon. gentleman aware that the price of cement has gone up 3s. a ton during the last three days? Mr. G. Balfour (Hampstead, C.U.): And that the scarcity of the material is keeping people out of employment in this country? No answer was given to the last questions.

The occupation of the Hotel Cecil by the Air Ministry has practically ended. The dilapidations during nearly three years of Government tenancy are naturally considerable, and the surveyors of the Office of Works and of the Hotel Company are already busy assessing the amount to be paid for damage done. Workmen will be drafted in immediately, and it is hoped that the work of preparing the building for its normal uses will be completed within six months. This work would have taken only half that time but for building trade difficulties. With regard to expenditure on reinstatement, it is understood that the policy of the Government, where hotels are concerned, is to hand them back again in a condition as nearly as possible equal to that in which they were taken over. This does not mean entirely renewing and redecorating them. The work is usually done by the owners, and the amount to be paid either agreed to by the surveyors or determined by the Defence of the Realm (Losses) Commission.

The Federation of British Industries will hold an exhibition of British manufactures in Athens from October 13 to November 14 next (September 30 to October 31 Greek style). It will be the first devoted solely to British manufactures held overseas. At least 150,000 visitors are expected to go to the exhibition—not Greeks alone, but visitors from all parts of the Levant and the Balkans. Already many inquiries have been received from Turkey, Rumania, Serbia, and the important Eastern Mediterranean ports. The "Zappeion," which has been lent to the federation by the Greek Government, is a fine exhibition building with about 35,000 square feet of stall space. Practically the whole of this space has now been allotted. The articles to be shown include chemicals, bridge and structural iron and steel work, electric lamp making machinery, dress materials, machine tools, dynamos, sporting goods, aeroplanes, motors and accessories, hollow-ware, wireless apparatus, balloon fabrics, drawing instruments, confectionery, whisky, preserved meats, milks and delicacies, light cars, lorries traction engines, decorative hangings, paper and leather goods of all kinds. Their total value is estimated at from £250,000 to £300,000.

STATUES, MEMORIALS, etc.

PETERBOROUGH.—The Dean and Chapter of Peterborough Cathedral have resolved, with a view to the early renewal and completion of the works of reparation and embellishment of the Cathedral, which have remained unfinished, to revive and reconstitute upon a fully representative diocesan basis the Cathedral Restoration Committee, which is still officially in existence, and has some funds at its disposal, though it has taken no action for a good many years. It has also been resolved that the resuscitated and enlarged Committee should be asked to advise upon the question of a Cathedral War Memorial, and of some worthy thankoffering, in relation to the 800th anniversary in 1917 of the foundation of the existing monastic building, its consideration having been postponed owing to the war.

THE CITY OF LONDON WAR MEMORIAL.—The Streets Committee of the City Corporation last Wednesday discussed with the Lord Mayor and Sir Aston Webb, P.R.A., an amended design by the latter for a monument in memory of London troops who fell in the war. The Corporation declined to give the War Memorial Committee permission to erect a memorial on the lines of the first design in front of the Royal Exchange, chiefly on the ground that the style was not suitable for the site. It is understood that the amended design met with the approval of the Committee, which will in due course advise the Corporation to grant the site desired.

HADDINGTON WAR MEMORIAL.—The Haddington Burgh and Parish War Memorial Committee have received a report from Mr. G. Washington Browne, R.S.A., Edinburgh, stating that he has carefully considered the various sites he examined, and he is clearly of opinion that the plot inside the churchyard gate is the most appropriate from all the associations surrounding it while the most suitable form of memorial is some type of the Christian Cross the symbol of self-sacrifice. Sketches and provisional estimates were submitted, showing that the cost would be £600 or £700.

OBITUARY.

We much regret to announce the death of Mr. Herbert Ward, the explorer, artist, and sculptor, in Paris, aged fifty-seven, from heart failure, the result of his untiring labours during the war. When he left Mill Hill in 1878, at the age of sixteen, he sailed in an emigrant ship to New Zealand; and after playing every sort of part in Australian and New Zealand life for three years completed the circle of the world as an A.B. He after two other sea voyages spent eight months as head of a military expedition into the interior of Borneo. His next expedition was to the Congo in 1884, where some three years later on his own initiative he collected 400 natives, marched to meet Stanley, and served with him for two and a half years in the centre of the Dark Continent. He was the last surviving officer of Stanley's Emin Expedition. After his marriage in 1890 with the daughter of Mr. C. H. Sanford, of New York, he surrendered adventure for sculpture. He became a constant exhibitor at the Salon, won two gold medals, and received the Cross of the Legion of Honour in 1911.

PROFESSIONAL AND TRADE SOCIETIES.

QUANTITY SURVEYORS' ASSOCIATION.—At the last meeting of the Quantity Surveyors' Association Mr. Walter Lawrance, F.S.I., of 13, Hart Street, Bloomsbury, W.C.1, was elected President for the ensuing year, with Mr. Arthur Cross, F.S.I., 28, Victoria Street, Westminster, S.W.1, and Mr. H. England, 64, Victoria Street, Westminster, S.W.1, as Vice-Presidents. Mr. Lawrance became the first President upon the formation of the Association some sixteen years ago, and remained a member of the Council after the expiration of his term of office. Seeing that some reforms in the construction of the Association, whereby its sphere of usefulness may be extended, are under consideration, the members are to be congratulated upon having as their head one whose sound judgment and experience should prove of the greatest value to the profession in general and to this Association in particular.

SURVEYORS' AND AUCTIONEERS' CLERKS' ASSOCIATION.—The actuary's quinquennial report and valuation was received and adopted at a meeting of the above association, held at the Surveyors' Institution on July 30, Mr. H. W. Bilby (Chairman of Committee) in the chair. The following is the general balance sheet, embodying the results of the quinquennial:—Liability for benefits to members: Sick fund, £4,918; life assurance, £1,146; deferred superannuation, £1,234; existing superannuation, £318; benevolent fund, £569; management expenses, £1,700; surplus, £2,295; total, £12,730. Present value of future contributions: Sick fund, £1,967; life assurance fund, £510; superannuation fund, £183; investments, £9,911; cash at bank, £159; total, £12,730. The Secretary (Mr. Luke Edmondson) added notes as to the allocation of the surplus and investments to the various funds.

CHIPS.

Harrow Weald proposes to erect a war memorial hall on the village recreation ground.

A parish hall is to be erected at Rhosyllin, near Wrexham, at a cost of between £5,000 and £6,000.

The Rothwell Urban District Council have agreed that the erection of fourteen houses be proceeded with as a first instalment. Mr. C. D. Rochester is the architect.

Now that the Peace Celebrations and the Thames Pageant are over, the League of Arts will once more carry on its work at its old offices situated at 36, Cornhill, E.C.3.

The Newton Abbott Rural District Council have appointed Mr. B. H. Palmer of Topham, as architect for the housing scheme, and to acquire land at Kingsteignton as a site.

The Thurrock, Grays and Tilbury Joint Sewerage Board, have forwarded to the M.H.L. plans and estimates for the Tilbury section of the sewerage scheme, the cost of which is estimated at £77,150.

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TENDERS.

* Correspondents would in all cases oblige by giving the address of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BENTLEY.—For erection of houses, for the urban district council:—

Tenders accepted.

T. M. Metcalf, Doncaster, eight houses of Type I., which provides for two large downstairs rooms and three bedrooms, with bath-rooms, etc.; and **T. Jenkinson and Son, Bentley,** four houses of Type I. The approximate cost per house is £620. **T. H. Welburn, Doncaster,** ten houses of Type II., providing for three rooms downstairs and three upstairs bath, etc.; **T. Jenkinson and Son,** ten houses of Type II. The approximate cost per house is £740.

CARLISLE.—For twenty-four houses in Denton Street, for the corporation:—

Bell, J. and R., £23,000 0 0

Accepted.

EAST HENDRED.—For drainage and flood prevention works, for the Wantage Rural District Council. **J. W. Harris, East Challow, Wantage,** engineer and surveyor:—

Barrett, J. P., West Hamney,

Wantage £1,429 0 0

Gregory, E. and H. J., Wantage, 1,360 0 0

Frentham, G. P. Ltd., 7, Queen

Street, Chelmside, E.C.4 1,146 0 0

* Accepted.

HERTFORD.—For structural alterations to Hertford Residential School buildings, for the Hertfordshire County Council:—

Norris and Son, Hertford, £1,007 and £459

(Accepted).

HINCKLEY.—For the construction of a new road in connection with Burbage Road housing scheme of the Hinckley Urban District Council. Major Crump, surveyor:—

Saunders, S. W., Birmingham

(a) £2,203 0 0

Saunders, S. W., Birmingham

(b) 5,580 0 0

Muirhead, Macdonald, Wilson

and Co., Birmingham 4,182 0 0

Chamberlain, C., Leicester 3,651 0 0

Curral, Lewis and Martin, Bir-

mingham 3,612 0 0

Trentham, G. P. and Co., Bir-

mingham 5,526 0 0

Greaves, H., Hinckley 3,435 0 0

* Recommended for acceptance.

IBSTOCK (Lincs.). For erection and completion of a working men's club and institute at Ibstock, G. H.

Hewes and Sons, Marlborough Square, Coalville,

architects:—

Moss and Sons, Ltd., Lough-

borough £5,250 0 0

Griffin Bros., Hugglescote 5,019 0 0

Orton and Co., Coalville 1,909 0 0

* Accepted.

NEWINGTON.—For completion of the erection of the new Sessions House at Newington, for the London County Council:—

Prestige and Co., £58,206 0 0

* Recommended for acceptance.

NOTTINGHAM.—For restoration after fire of parts of their infirmary at Bagthorpe, for the Notting-

ham Board of Guardians:—

Herring, J. and Sons, Ltd., 107,

High St., Arnold, Notts £570 0 0

* Accepted.

PADDINGTON.—For repairs to boiler at the Mober-

ley School, Paddington, for the London County Council:—

Towler and Innes £57 11 0

Pearson, R. H. and J., Ltd. 55 0 0

Bains and Speight, Ltd. 50 0 0

* Recommended for acceptance.

SOUTH KILLINGBOURNE (Lincs.). For eight cottages at Goxhill and eight cottages at South Killing-

bourne, Lincolnshire, for the Glandford Brieg Rural

District Council. **W. H. Buttrick, C.A.S.L., Bank**

Chambers, Scunthorpe, architect:—

Thorndill Bros., Lincoln £14,376 0 0

Pumfrey, B., Gainsborough 9,640 0 0

Usher, J., Barton-on-Humber 8,430 15 0

Ashton, H., Barton-on-Humber 7,991 13 6

* Accepted.

The Birmingham City Council have ap-

pointed Mr. Herbert Henry Humphries to the

position of city engineer and surveyor at a

salary of £1,500 per annum.

LIST OF TENDERS OPEN.**COMPETITIONS.**

Aug. 15.—For designs for War Memorial for the Leamington Spa. For the War Memorial Committee. Premiums offered of £100, £50, and £25, for first three designs. Assessor, Mr. H. V. Ashley, F.R.I.B.A., 14, Gray's Inn Square, W.C. Designs to, and particulars of, Leo Rawlinson, Town Clerk, Leamington Spa.

Aug. 22.—Premium of £50 offered for the best lay-out of 36 acres for cottages by Bromborough U.D.C., the selected plans to become the property of the Council. Mr. Badger, Director of Housing for Liverpool, adjudicator. Plan of site obtainable on receipt of 10s. deposit. Designs to W. A. Weston, Clerk to the Council, Bromborough.

BUILDINGS.

Aug. 13-29.—Erection of eight cottages in the parish of Mountnessing. For the Billericay Rural District Council.—C. E. Lewis, clerk, New Road, Brentwood.

Aug. 15.—Alterations at the junior mixed school, Raynham Road, Edmonton, N.18.—For the Education Committee of the Edmonton Urban District Council.—H. W. Dobb, M.S.A., Town Hall, Edmonton, N.9.

Aug. 18.—Erection of eight houses at Walberton, in the rural district of Westhamphett, West Sussex.—For the Westhamphett Rural District Council.—W. D. Rasell, clerk, 5, South Street, Chichester.

Aug. 18.—Erection and completion of eight houses on the Hurst Farm site, Swindon, being contract No. 1.—For the corporation.—R. Milton, town clerk, Town Hall, Swindon.

Aug. 21 Sept. 11.—Additions to the High School for Girls, Boston Avenue, Southend-on-Sea.—For the Education Committee.—J. W. Barrow, secretary, Education Offices, 11, Nelson Street, Southend-on-Sea. Drawings may be seen at the offices of the architect, Henry T. Hare, F.R.I.B.A., 2, Gray's Inn Square, W.C.

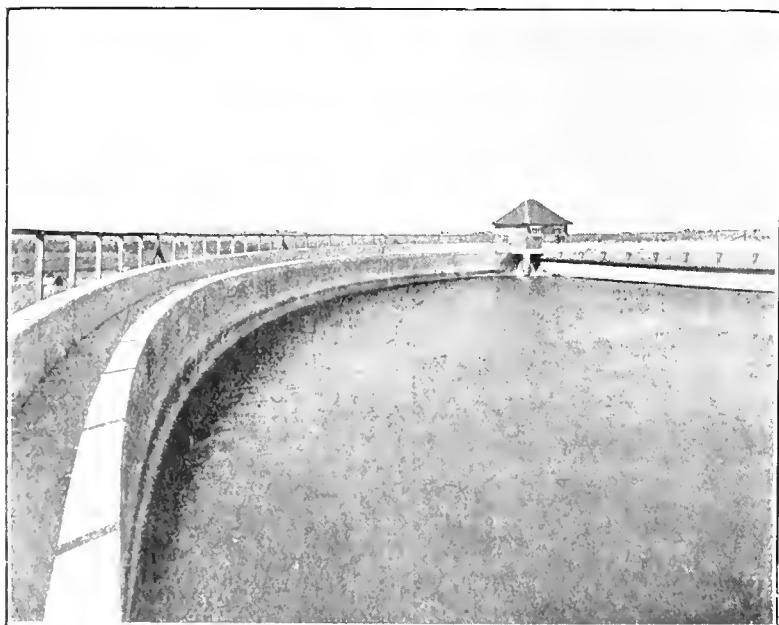
Aug. 23.—For six houses and eight sets of farm buildings at Babthorpe Farm, Hemmingbrough, Yorks.—For the Small Holdings and Allotments Committee of the East Riding County Council.—J. Bickersteth, clerk, County Hall, Beverley.

The architect, Mr. Sharman, has been instructed by the Irchester District Council to prepare alternative plans for the erection of houses for their consideration.

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11, OLD QUEEN ST., WESTMINSTER, LONDON, S.W. 1.

Telephone: No. 5618 Victoria. Telegrams: Thorntolvin, Vic., London

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Currente Calamo.

Readers and advertisers are asked kindly to note that on September 5 next the publication of THE BUILDING NEWS will be changed back to Friday, as before the war, instead of Wednesday. The alteration from Friday to Wednesday was made then to ensure, as far as might be possible in the congested condition of all means of transit, the receipt of their copies by subscribers in the provinces. The object was achieved, and we are glad to know that readers in nearly every case had no difficulty in obtaining their paper, at any rate, before the expiration of the current week. But the disadvantages of the change were that it has occasionally hindered us from publishing news that ought to have been published, and advertisements which reached us later than 3 p.m. on Tuesday. Now that much more news and many more advertisements reach us later than Wednesday that imperatively claim publication in the same week, we have arranged to revert back to our old day of issue. On and after September 5 next, therefore, the paper will be published at 2 a.m. on Friday mornings, and the latest time for receipt of advertisements will be 3 p.m. on Thursdays.

The Profiteering Bill was read a third time in the Commons last Thursday, after a pitiable an exhibition of meddle and muddle as ever this Government could furnish. For months Ministers resolutely shut their eyes to the raids of the profiteers on the public. At last they appointed a really respectable and independent Committee to inquire into matters. That had just started work when, apparently panic-stricken, Ministers announced legislation on lines similar to those of the Compulsory Service Acts. Then they changed their minds and threw the onus of administration on to the Board of Trade. On the second reading they protested that their definition of profiteering was merely "conventional," and that their main object was to deal with the trusts and trade combinations. Two days later Sir Auckland Geddes had to eat his words and announce a curious and crude definition of profiteering by himself and Sir Gordon Hewart. Last

Thursday Sir Auckland Geddes had to admit the Bill would not touch the trusts, and promised legislation in the autumn to be based on recommendations of the Committee of Trusts, which actually, on the previous Monday, Mr. McCurdie had declared were fully embodied in the provisions of the Bill! The net result is a Bill that is incomprehensible, and in regard to which Mr. Bonar Law says there is no intention to fix maximum prices to any considerable extent. Past masters as Ministers have proved themselves in the art of humbugging the country, they, and the Parliament which allowed it, before they have been very long holiday-making, will find the country aflame with a veritable storm of indignation at its betrayal. Mr. Duncan Graham's suggestion last Thursday at Ayr, that the whole nation shall strike, does not meet the case. It is at the polls presently that every voter must wake up from his outer apathy, and send this Government to limbo.

The Increase of Rent Acts are still causing trouble in the Courts. This is an aftermath of the war that makes for waste of money in litigation. These hasty emergency statutes were intended to be mainly worked out through the County Courts, and the judges there incline to the view that they have discretionary powers of decision partly dependant on the circumstances of the parties before them. The High Courts and the Court of Appeal, on the other hand, lean towards drawing definite lines that shall become guiding precedents. The latest example of this difference in the judicial outlook is the curious case of "Price v. Pritchard." There the petitioner had let his house to a new tenant as from Lady Day, 1918, and had given the needed notice to the defendant, his old tenant, who declined to go, and pleaded the Acts. The County Court judge held that, under the Act of 1915, upon the words in Section 1 (3) "or on some other ground which may be deemed satisfactory to the Court," he had a general discretion to make an order for possession. Acting on this view, and finding that this old tenant was a bachelor with no ties that bound him to the locality, while the new man had a family and was working in the town, he made the order for possession. On appeal to the High Court the two sitting judges felt bound by

the *dicta* of the Lords Justices in the leading case of "Stovin v. Farebrother," and reversed this ruling. But, though they did that, it was reluctantly and for differing reasons. They said that they based their judgment on the *dicta*—i.e., the remarks of the Court of Appeal—and not on its decision. The net result is to leave rather open this point as to a County Court judge's discretion to consider the circumstances of the parties in their rival claims to the possession of a house, which may yet go to the Court of Appeal.

Major Astor, the Parliamentary Secretary to the Ministry of Health, addressed the Parliamentary Housing Committee last Wednesday night. He hoped the stage was now approaching when tenders for houses would be rapidly accelerated. He is either a very sanguine man or he does not read the reports of local dissent from that view which we give nearly every week! The Department were considering new forms of construction, with a view to cheapening the cost of housing schemes. He felt certain that the leaders of Labour could be counted on for energetic assistance, both in expediting the erection of houses and in keeping down the cost. Does he? After reading the Committee's Report to the "Building Trades' Parliament," which we give on another page this week? Sir Kingsley Wood (Dr. Addison's Parliamentary private secretary) explained that the total number of sites submitted to the Ministry was now 4,003, with an acreage of 40,000. He also dealt with the complaints made that the Ministry had occasionally delayed the acceptance of tenders. He endeavoured to show that in many cases this delay and the consequent scrutiny had led to the effecting of valuable economies. Tenders for 3,200 houses, which had been examined, amounted in the aggregate to £2,371,000, or an average of £740 a house. The "estimated" saving which had been effected owing to modifications suggested by the Ministry was £212,850, or an average of £66 10s. a house. The average cost had thus been reduced to about £670 a house. A similar scrutiny had been made of four lay-out schemes amounting in the aggregate to £27,350, and a reduction of £3,162 had been effected. We shall see before long what all these "estimated" savings are worth!

We are glad to announce elsewhere, with regard to the Slough scandal, the Eton Rural District Council has re-seined its decision to build houses for the Motor Repair Depot. The Government will now be forced to build the houses themselves, and then the country will at last learn the true cost of this disgraceful blunder. They cannot run four special trains a day in perpetuity, in addition to the large amount of railway accommodation required to bring derelict cars from all over the country. One more point, of serious constitutional importance, was disclosed at question time on Tuesday week in the House of Commons. Captain Guest stated that of 18,000 civilians employed at the War Office on Armistice Day 7,000 had been "reduced," but of these "about 3,000 have been transferred to the 'Ministry of Supply.'" This Ministry has no official existence, because it has not been sanctioned by Parliament, and therefore it does not figure on the Estimates. Precisely the same position was created weeks ago by Sir Eric Geddes in connection with the Transport Ministry. In nothing, as the *Times* insists, have the Government shown a grosser contempt for Parliament and for administrative principles than in these wholesale appointments to Ministries not yet sanctioned; and by their carelessness in neglecting to protest against these illegal acts, the private members of the House of Commons share official culpability. As we have repeatedly said, Parliament and the Government must go together, and now, if these scandals are to end.

We incline to hope with the *Guardian* that the completion of the canopy over the tomb of Bishop Lancelot Andrewes in Southwark Cathedral, which has just been effected at the instance of the cathedral authorities, marks the end of the changes in the resting place of these honoured remains. Upon his death in 1626 the Bishop's body was laid in the Little Lady Chapel in a tomb surmounted by a canopy. In 1676 the roof of the chapel was destroyed by fire, and the canopy damaged beyond repair. In 1830 the vandals of the day decreed the destruction of the chapel altogether. The tomb was then removed to the position behind the High Altar of St. Saviour's, in the present Lady Chapel, where it remained until it was recently removed to a more suitable position on the south side of the High Altar. When this was done the coffin was revealed, bearing the initials "L. A."

Mornington Crescent, near the Tube station of that name in Hampstead Road, in the market as "an exceptionally fine building site," is to be offered for sale at an early date by Messrs. Daniel Smith, Oakley, and Garrard. Since we gave prominence to the fact that the 4½ acres were for sale, it has been suggested that the Borough of St. Pancras should put up a town hall in the crescent. The present offices of that municipality are certainly a disgrace to it, but the site is not one

that favours an economical or convenient plan, and St. Pancras, moreover, has a bad reputation with architects for wasting their time in competitions that come to nothing. The present enclosure, with its grass and shrubs shaded by fine timber, is an asset to the whole of Hampstead Road, and should not be covered with buildings at all. There is an excellent opportunity for some millionaire to try and make it a permanent addition to the none too numerous open spaces in the immediate neighbourhood.

THE BUILDING TRADES PARLIAMENT.

We give elsewhere as full a report as we can spare space for of the proceedings at the meeting of the "Building Trades Parliament" at the Hampstead Garden Suburb last Thursday and Friday.

The most important business was the submission of the Reports of the three principal Committees appointed by the Council. Of these, that of the Committee selected to report on "Organised Public Service in the Building Industry" certainly deserves the most serious consideration. Frankly, to us its proposals seem impracticable and unworkable. If it is the last word of the men selected to realise real co-operation of employers and workpeople on the lines indicated in the original scheme for a "Building Trades Parliament," then, in our judgment, that body is as dead and buried as its namesake at Westminster! For it is permeated throughout by the suicidal disposition which has captured Trade Unionism, and culminated in the effort to prevent men from working at their best to produce the adequate supply of necessary things—the most necessary at the moment of all, as far as our own industry is concerned.

We cannot conceive the possibility of the perusal of this Report by any reader who has had really practical experience as employer and worker in our own industries without the instant conviction that such a complete break with the past would bring about even more disastrous stagnation than has marked that of the past ten years, reacting most and always on the worker, and, worst of all, on the poorest worker and his dependants. Such an organisation as is fancifully portrayed, working on the lines suggested, would assuredly be a bureaucracy marked in a still greater degree by the self-seeking, ignorance, and recklessness which have made "Control" during the war a byword and a beacon of warning to all succeeding generations.

As regards the place and function of Capital in our present system we really should have hardly credited the possibility of any sane body of business men formulating such propositions as are elaborated in the section of this Report dealing therewith; or the confusion of mind which throughout ignores the vast difference of mere capital itself and the things that capital wisely organised makes it possible to create in the shape of factories, plant, and credit to enable work to be carried on. The real danger of the moment is that capital is either arbitrarily withheld from or frightened away—as it has been by Mr. Lloyd George—from its proper and legitimate function. The methods of supplying capital which the good people who concocted this Report adumbrate *might* find the funds for a picnic, but they would inevitably send out of the country during the next ten years every man who, suc-

ceeding in business by brains, or labour—oftenest by both—has benefited the whole community. Such men are the product of as true and real a progress of "natural selection" as Nature employs in the evolution of the race. The misfortune of the time is that men of this stamp, sick of such hindrances as the State has placed in their way of late, and scared by such piffling plagiarism thereof as our amateur economists at the Hampstead Garden Suburb are led to direct their energies into less beneficial fields of action, and to pander to a perverted public taste for the luxuries of the few, instead of helping the masses to provide and enjoy the really good things of life.

Once more, let us clear the field of the phantoms our good friends are so enchanted with, and recognise that "the work in front of us to-day is to encourage by every means in our power the utmost production, and its fair distribution among those who make it possible. Our enemies are the employers who intercept or waste capital, and the workmen who throttle it by *ca-canny*. And if sound reason fails to convince the nation that this is so, and sends it wool-gathering after visionary methods of the sort fancifully foreshadowed in the Report under discussion, we may as well give up the race at once to America, Germany, and Japan, and surrender ourselves to the rôle of a fifth-rate power with a population of a million or two of pedantic philosophers rivalling those of Laputa, whose vagaries are out-rivalled to-day by some of their modern prototypes.

THE BUILDING TRADES PARLIAMENT.

As we announced on page 132 of our last issue, when we gave the full agenda, a meeting of The Industrial Council for the Building Industry, otherwise known as "The Building Trades Parliament," was held last Thursday and Friday at The Institute, Hampstead Garden Suburb.

The principal business was the submission to the Council of the Interim Report of the various Committees, the most important of which we give.

ORGANISED PUBLIC SERVICE IN THE BUILDING INDUSTRY

This was an Interim Report of the Committee on Scientific Management and Reduction of Costs, appointed by the Industrial Council for the Building Industry.

INTRODUCTION.

This committee was appointed to consider the question of scientific management and reduction of costs, with a view to enabling the building industry to render the most efficient service possible.

As our investigation proceeded we became more and more impressed with the immense possibilities lying latent in the new system of Industrial Self-government implied in the constitution of our Industrial Council, and we believe that, given the vision, the faith and the courage, our industry will be enabled to lead the way in the industrial and social readjustments that are imminent.

We have glimpsed the possibility of the whole building industry of Great Britain being welded together into one great self-governing democracy of organised public service—uniting a full measure of free initiative and enterprise with all the best that applied science and research can render. The whole trend of modern industrial development is already setting in this direction. We have now much valuable experience of control by the State, by the municipality, by the co-operative organisations of consumers, by the joint stock company, and by individual private enterprise. Most of these forms of control offer advantages, but each of them presents serious defects.

We believe that the great task of our In-

dustrial Council is to develop an entirely new system of industrial control by the members of the industry itself—the actual producers, whether by hand or brain—and to bring them into co-operation with the State as the central representative of the community whom they are organised to serve. Nothing short of this will produce the full development of the "team spirit" in industry, which is the key to the whole problem of production; nothing short of this is worthy of the high ideals for which our Industrial Council stands. But such a reconstruction of our industrial fabric cannot be achieved in a day. There are many problems that require patient experiment, and experience must be purchased in the school of trial and error. Our hope for the future lies in the liberation and right direction of man's true generous qualities of goodwill, enthusiasm, and adventure. They must be our constant guide, and no fear of the risks that seem to be involved must allow us to deny them.

The recommendations that we now bring forward are, therefore, based upon their immediate availability, and are designed to lay the foundation of an industrial system which, while giving full play to individual enterprise and complete freedom from the benumbing hand of bureaucracy, shall yet tend to develop that sense of comradeship and solidarity that is so essential for efficient service.

THE PROBLEM STATED.

It became clear at a very early stage that there are four main factors that tend to the restriction of output. They are:—(a) The fear of unemployment. (b) The disinclination of the operatives to make unrestricted profit for private employers. (c) The lack of interest in the industry evidenced by operatives owing to their non-participation in control. (d) Inefficiency, both managerial and operative. We begin, then, with the question of employment. In a report such as this it seems unnecessary to elaborate the well-known seasonal difficulties with which our industry is confronted. We therefore proceed immediately to indicate the lines of remedy.

THE REGULARISATION OF DEMAND.

The aim we have in view is the development of the highest possible efficiency in a well-organised building service. To this end we consider it essential that the whole productive capacity of the industry should be continuously engaged and absorbed, and that a regular flow of contracts should replace the old haphazard alterations of congestion and stagnation.

It is well known that the proportion of public to private work is very considerable, and that it is well within the powers of public authorities to speed up or to delay contracts. We therefore recommend:—(a) That the Industrial Council shall set up a permanent committee entitled "The Building Trades Central Employment Committee," with the necessary clerical staff. (b) That each regional council shall similarly set up a building trades regional employment committee. (c) That each local or area council shall similarly set up a building trades area employment committee. (d) That each committee shall consist of an equal number of employers and operatives, with one architect appointed by the local professional Association of Architects or by the R.I.B.A., as may be most appropriate.

The first duty of these committees would be to regularise the demand for building: (a) at the approach of slack periods, by accelerating new building enterprises, both public and private, with the co-operation of architects and local authorities; (b) conversely, at periods of congestion by advising building owners to postpone the construction of such works as are not of an urgent character.

Except where modified by special arrangements, we recommend that the central, regional, and area employment committees should co-operate with the appropriate State, county, or district authorities.

Although we propose that these committees should consist of producers only, we contemplate the fullest possible co-operation with the Government and local authorities at every stage, not only because they are im-

portant customers themselves, but also because they are the duly elected representatives of the community.

We recognise that such a scheme would involve some measure of restraint upon individual employers, and realise that the small non-federated employer would be an obstacle to its ordered working, but we are convinced that combined pressure by members of the Industrial Council or its constituents should eventually overcome this obstacle. Such spreading over of work from year to year and season to season will not of itself solve the whole problem of providing a steady stream of work.

THE DECASUALISATION OF LABOUR.

We recommend that the second main function of the local employment committee shall be the decasualisation of labour, for the difficulty of providing employment during wet and bad seasons has yet to be faced. We feel that a certain amount of investigation is still needed in this direction, and venture to suggest that the Building Trades Industrial Council should approach the representatives of other industries and public authorities with a view to investigating the possibility of "dove-tailing" or seasonal interchange of labour.

There would appear to be a large volume of national and private work which could be undertaken when the industry itself could not usefully employ all its available labour, for example:—(a) Afforestation; (b) road-making; (c) the preparation of sites for housing schemes; (d) demolition of insanitary or condemned areas in preparation for improvements. The question of the method of paying men so engaged in other occupations in bad seasons will be considered later in relation to the scheme we are recommending for the provision of unemployment pay.

When all other methods of providing steady and adequate employment for the operatives have been exhausted, then the industry is faced with the question of its responsibility towards its employees during possible periods of unemployment. We are convinced that the overhanging fear of unemployment must be finally removed before the operative can be expected whole-heartedly to give of his best. Considerations of humanity and efficiency alike, therefore, demand that provision shall be made by the industry itself adequately to maintain the operative and his family during any period of unemployment arising from causes outside his control. This accomplished, we believe that the whole atmosphere of industry will experience a great and vitalising change, and that efficiency of production will be much increased. We accordingly suggest that termination of employment upon any job should be subject to one week's notice instead of one hour (except in the case of a strike or lock-out), and that the local employment committee should be immediately notified of such approaching terminations, and also of all vacancies occurring. The machinery for filling vacancies already exists in the trade union organisation, and should be developed to the greatest possible extent, in order to supplement the State Employment Exchanges so far as the building industry is concerned.

UNEMPLOYMENT PAY.

We further recommend that in cases of unavoidable unemployment the maintenance of its unemployed members shall be undertaken by the industry through its employment committees, and that the necessary revenue shall be raised by means of a fixed percentage on the wages bills, and paid weekly to the employment committee by each employer on the joint certificate of himself and a shop steward or other accredited trade union representative.

The amount of the percentage charge necessary to raise funds for the maintenance of members unavoidably unemployed will naturally depend upon the amount of the State subsidy for the purpose, and also upon the efficiency of the employment committees in the matter of: (a) Regularisation of demand, and (b) decasualisation of labour; but it is already evident from past experience that the percentage will certainly be small, and that a charge of 5 per cent. would probably

be more than ample. An estimate of the revenue required for the coming year should be laid before the Industrial Council annually and the rate of percentage fixed accordingly.

While the collection of this revenue should be carried out by the employment committees, the payments should be made by periodical refund to the trade unions, who would thus become an important integral part of the official machinery and would distribute the unemployment pay in accordance with the regulations prescribed by the Industrial Council and its committees.

Every duly registered member, when prevented, for a period to be fixed, from working at the proper craft at the full standard rates of the district, should be entitled to unemployment pay, whether or no the cause be stress of weather. In all cases the amount would be inclusive of any benefit under the State and trade union schemes.

We further recommend that every registered member should be entitled to one week's summer holiday pay per annum, at the same scale and from the same fund as the unemployment pay.

For purposes of this scheme, "Members of the Industry" would be trade unionists engaged therein, including the clerical, technical, and managerial staffs, who register with the employment committees for participation. During unemployment all men should receive half their full wage, supplemented in the case of a married man by one-tenth of his full wage for his wife and each of his children up to four, under sixteen years of age. When the industry becomes responsible in this way for unemployment pay, apart from the contributions which it already has to pay under the State unemployment schemes, then two essential conditions must be fulfilled. (1) The workers by more concentrated effort must increase efficiency beyond the present standard; and (2) management and capital must consent to a limitation being imposed upon their earnings, and should be prepared to adopt methods on their part which will lead to greater output.

The unemployment scheme recommended will perform two functions at least. It will go far to secure the complete goodwill of the operative and make unnecessary certain restrictions which exist, either tacitly or otherwise, on output; and secondly, by absorbing a certain amount of the surplus earnings of the industry, it should tend to meet any disinclination on the part of the operatives to make unrestricted profit for private employers. It has already been recommended that during bad seasons operatives should be encouraged to accept work in other occupations rather than unemployment pay. The question of remuneration under such arrangements requires further consideration, and we hope to deal with this in a later report. It is hoped that this scheme will be so satisfactory that it will be finally possible not only to relieve employers of their liability under the Workmen's Compensation and the Employers' Liability Acts, and to supersede all trade union sickness and unemployment benefits, but that the industry will ultimately obtain powers to contract out of the State scheme. The danger of fraudulent claims upon the Unemployment Fund has not been overlooked, but we believe that ample safeguards will be found in the utilisation of the trade union organisation for the payment of the money, and of the existing Employment Exchange facilities for registration of the unemployed. Moreover, fraudulent claims cannot easily be put forward because unemployment will only result when the scheme for the regularisation of employment has failed to absorb any more labour.

THE WAGES OF MANAGEMENT.

At this point it is necessary to state that the first question discussed by the committee was the possibility of the adoption by individual firms of some scheme of profit-sharing or co-partnership which would abolish the second factor limiting output. It immediately became clear, however, that such schemes were no backing either by the trade union representatives or by the majority of the operatives. All such methods of payment are strictly forbidden in the rules of most trade unions in the industry. Hitherto the reasons

of this objection have been:—(1) The fear of increased unemployment. (2) The fear of disintegrating influences being introduced among the workers, thus weakening the authority of the trade unions. (3) The difficulty of applying most methods of payment by results to the peculiar conditions of the building industry. But it was found that the trade unions involved would be prepared to reconsider their attitude if the surplus earnings of the industry went not to individuals, but to some common service controlled by the industry as a whole. This brought us immediately to the consideration of the wages of management. Here we were faced with the peculiarly difficult organisation of the building industry. The ease with which small businesses can be started with little or no capital makes it possible for many employers to carry on in the dual capacity of manager and owner. Many of these men have no proper system of accountancy or audit, and would be quite unable if asked to differentiate between the wages of management and the interest on their capital. Many such concerns are exceedingly unstable and, as is well known, are often a source of considerable discredit and danger to the industry. In the larger firms the managers again are usually principally concerned in the ownership of the business, and therefore, in view of the limitation of the rate of interest on their capital, as we recommend in the next section, yet they are directly and intimately concerned with the salaries they would receive as managers. Thus, in any attempt to fix some scale of remuneration for the different types of management, we are at once faced with the difficulty of the proper determination of an adequate salary. In parenthesis, we would here like to remark that no opposition to an adequate remuneration for management is likely to be offered by the trade unions who may discuss the scheme. We feel sure that no fair-minded operative will hesitate to support an adequate scale of salaries. The workman demands from the management, as does the management from him, the highest possible efficiency and respects it where he finds it. When that is rendered his whole tendency is to insist that such service shall receive adequate remuneration. Various alternative suggestions were discussed, and rejected, for example:—(a) To fix salaries in a definite proportion to foremen's wages. (b) To fix them in a definite proportion to the profits of the business or its turnover. (c) To ascertain what the ordinary market value of a manager would be. We finally decided to recommend that the salaries of management might first be ascertained by each "employer manager" declaring what salary he has received or what he regards as his due. These declarations should be periodically reviewed by the Employment Committees appointed under this scheme, the first review to ascertain data for possible revision in order to develop a recognised standard of remuneration.

THE HIRING OF CAPITAL.

It will already have become evident that the whole conception of organised public service that we are developing demands the acceptance of three main principles as an essential preliminary to that increase of efficiency without which the cost to the community cannot be reduced. (a) Regular rates of pay to the operatives that will ensure a real and satisfactory standard of comfort. (b) Salaries to owner-managers commensurate with their ability. (c) A regular rate of interest for the hire of capital. These established, the whole atmosphere will be clarified, the interdependence of the different sections will be better understood and the "team spirit" will rapidly develop. The investigation of the hire of capital was, therefore, one of the most important, and, at the same time, one of the most difficult sections of our inquiry. One of the many unsatisfactory features of the building industry hitherto has been the precarious nature of the employers' position and investments. There is no need to enlarge upon this—it is well known to those engaged in the industry. Recognising then that confidence on the part of employers and operatives alike is essential for efficiency, we bring forward proposals to secure that end.

In the first place it is necessary that the

earnings of employers should be clearly and definitely separated under two headings:—(a) Wages of management or remuneration paid by the business for personal service. (b) Interest or the charges paid by the business for the hire of capital. Wages of management should depend upon ability. Interest on capital should depend on security and on the market price of money.

The principle of the limitation of the rate of interest on capital has already met with wide acceptance in the industrial world, for example, by debentures, preference and loan stocks, as well as the ordinary shares of public utility societies. But limitation demands security, and security can only be given in return for a measure of control. Supervision, limitation, guarantees, form therefore the triple keystone of the plan we now propose. We recommend that approved capital, invested in the building industry, and registered annually after audit, shall receive a limited but guaranteed rate of interest, bearing a definite relation to the average annual yield of the most remunerative Government Stock. The fixing of the ratio will have to be worked out by further investigation, but we recommend that once determined upon, the guarantee shall apply to all firms in the industry, except where failure to earn the aforesaid rate is declared by the committee on the advice of the auditors to be due to incompetent management. The granting of loans for development—a necessary corollary of the scheme—will be dealt with in connection with the surplus earnings of the industry, which forms the subject of a later paragraph.

ACCOUNTANCY AND AUDIT.

The regular employment of qualified accountants for the service of the building industry is not only essential for the working of this scheme, but will add greatly to the efficiency of every firm engaged therein. Moreover, as we shall show in a later section, our sub-committee on production came independently to the conclusion that some such system of periodical accounting was absolutely necessary in order to place the conduct of the whole industry upon a more scientific and efficient basis. And, just as the professional quantity surveyor is becoming recognised as the qualified assessor as between the builder and the building owner, so the professional accountant will become the recognised assessor as between the builder, the whole body of producers, and the larger community of which they form a part.

THE SURPLUS EARNINGS OF THE INDUSTRY.

While it may be urged that the measures so far projected do not take any direct cognisance of the public interest, we believe that a solution of this problem may be found in the control of the surplus. We, therefore, recommend:—(a) That the amount of the surplus earnings of the industry shall be publicly declared every year, and accompanied by a schedule of the services to which the money has been voted. (b) That it shall be held in trust by a National Joint Committee of the Building Trades Industrial Council, and shall be applied to the following common services, which will be developed under the control of the industry as a whole:—1. Guarantee of interest on approved capital, as outlined in paragraph 36. 2. Loans to firms in the industry for purposes of development. 3. Education and research in various directions for improvement of the industry, both independently and in co-operation with other industries. 4. Superannuation schemes for the whole registered personnel of the industry. 5. Replacement of approved capital lost through no fault of the management. 6. Such other purposes as may be thought desirable.

CONDITIONS OF ENTRY INTO THE INDUSTRY.

It is obvious that the important improvements we have outlined will tend to make service in the industry more attractive; and while the interests of this public service emphatically demand the enrolment of every member who can be trained and utilised in the building industry, we fully recognise that indiscriminate enrolment must be prevented by careful regulation. We therefore recommend that the development of the industry should be kept under constant review by the

Employment Committees, and that these committees should periodically notify the trade unions as to the number of new members that may apply for registration under the employment scheme, after a suitable trade test or evidence of previous service in the industry. In anticipation of such periodical notifications, we further recommend that the trade unions should establish waiting lists, and that the periods of waiting should be utilised for technical training approved by the Building Trades Industrial Council. Similarly the entry of new employers into the industry will require careful regulation by the Employment Committees, in order to ensure that a high standard of efficiency is established and maintained. In this connection we recommend that no loans should be made from the development funds (suggested in paragraph 40) to new firms conducted by private enterprise. New private enterprise should always provide its own initial capital.

SCIENTIFIC MANAGEMENT.

Our recommendations so far have dealt mainly with the development of the "team spirit" in industry; that subtle change in the industrial atmosphere that will engender throughout the whole personnel of the building industry the confidence, enthusiasm, and sense of common purpose that are the necessary conditions precedent to the full development and operation of really scientific methods on what might be termed the material side of the industry. To the consideration of this we now proceed.

COSTING.

An accurate system of costing is the only foundation upon which the whole structure of scientific management can be safely erected. Without efficient costing no estimator can frame quotations with the reasonable certainty that he is not heading straight for disaster. We believe that it should be possible for the industry to adopt some simplified scheme for the use of builders who at present do not undertake any proper costing. It was generally agreed that many builders, especially those managing small businesses with a very limited capital, rely almost entirely on rule-of-thumb methods, with the result that their estimating is blind, faulty, and quite unscientific. In many cases no proper books are kept. Such methods are a danger and discredit to the industry. Moreover, this constitutes a great drawback from the point of view of organisation and efficiency.

As a result of considering the evidence, it became clear that some simple but generally applicable scheme of costing and accountancy is not only essential but possible; and if such a system be made part of the conditions of approval suggested elsewhere, we believe that it would be universally adopted. We therefore recommend that the Building Trades Council should promote a scheme or schemes which will fulfil the following conditions:—(a) Simplicity—i.e., not too unwieldy or detailed to be available and useful for prompt results. (b) Elasticity. (c) Accuracy. (We would here point out that the investigations and recommendations of the Sub-Committee on Distribution make it essential that the industry should endeavour to place such a scheme upon a proper footing, for without proper accountancy their recommendations would be of no avail.) Further, we recognise that any such system would involve routine, but the experience of those who have given evidence, testifies to the value of such routine, and to the small additional outlay in skilled staff which it involves. Moreover, any such outlay more than repays itself by increased efficiency. Such a scheme should also provide some method of determining with speed and safe approximation and at any stage:—(a) The proportion of the cost of the various items of labour to the total cost at any stage. (b) The proportion of establishment charges to total costs. (c) The proportion of the other factors involved. (d) Departmental costs.

We were aware, however, that the improvement in managerial or office routine was of itself not sufficient. We therefore invited criticism, by operatives engaged in the various crafts, of existing works organisation. Here we found a remarkable unanimity

of view that whatever mechanical readjustments are adopted, the greatest increase of production will come from mutual esteem between management (in the wider sense including foremen) and operatives.

The consensus of the evidence led us to the following additional recommendations:—

(a) That there should be more inducement to the most talented operatives to increase their efficiency and to undertake positions of greater responsibility. (b) That every care should be taken, especially in sub-contracting work, to provide a sufficiency of plant. (c) That production can be considerably increased by organising the position of scaffolding and the disposition of material in order to arrange a continuity of employment for the ultimate handler of the material. (It is better for the material to wait for the men than the men for the material.) (d) Workshops should be specially built or adapted for the purpose in view, and should contain the best devices for ensuring the easiest possible manipulation of material. (Very strong criticism was directed against many of the existing workshops, which were considered quite unfit for the nature of the work to be carried out in them.) It is clear that a detailed study of processes and a variety of experiments would afford in many cases considerable increases in output. (e) A better output will be obtained if the personal comfort of the operatives is provided for by better canteens, sanitary arrangements, etc., whether at the works or on jobs. Where such facilities are provided, the operatives should make fuller use of them.

We realise that no uniform arrangements or recommendations beyond a minimum can be made, as local conditions vary so considerably, nor can we presume to advise the individual employer how to organise any particular operation. But we realise very strongly the value of useful suggestions by the operatives. We therefore recommend that this can be best utilised by the establishment of works committees, upon which management and labour may interchange their specialist knowledge and discuss questions of mutual interest. Other benefits would undoubtedly accrue. The value of joint organisation would be brought more home to the whole of the employers and operatives alike, and thus the work of the Building Trades Industrial Council would be more keenly and nearly appreciated in all localities and workshops.

INTERIM REPORT OF THE BUILDING RESETTLEMENT COMMITTEE ON THE SUPPLY OF BUILDING LABOUR FOR THE GOVERNMENT HOUSING SCHEMES.

On June 18, 1919, the Parliamentary Secretary of the Ministry of Labour addressed a meeting of the Building Resettlement Committee, and informed the members that there was, in the opinion of the Government, danger of a shortage of labour so great that serious delay might be caused to the Government housing schemes. Your committee thereupon offered, on condition that the full facts were made accessible to them, to examine the situation, to check, in the light of their particular knowledge, the conclusions arrived at by the Government, and if it seemed that the housing schemes were in fact endangered, to state the measures which in their view were most likely to meet the difficulty.

It was agreed that the problem was urgent, and that a report should, if possible, be ready before the next meeting of the Industrial Council. Special meetings were therefore held, at which the subject was discussed in consultation with Dr. Addison and Sir Robert Horne and officials of the Ministry of Labour, the Ministry of Health, and the Scottish Office; and the following report has been drawn up:—

Your committee is informed that there exists at present a shortage of half a million working-class houses in the British Isles, to which must be added the normal demand of 100,000 a year. To make good this deficiency the Government have determined to erect 100,000 State-aided houses in England and Wales before July 1, 1920, and 10,000 in Scotland, and to double these numbers in the year

(July to July) following. To carry through the first year's programme the Ministry of Health and the Scottish Board of Health state that they would require 220,000 men. (See paragraph 3.)

ESTIMATE OF HOUSES.

Accepting for a moment this estimate of the labour theoretically required, it is clear that the date on which the demand will become effective depends on the progress of the schemes. It is common knowledge that actual building can hardly be said to be begun; in fact, only 330 applications for house plans, covering 12,457 houses, have yet been approved by the Ministry of Health. On the other hand, sites have been submitted for approval which would provide for 370,000 houses, and there is reason to believe that with the passing into law of the Housing Bill local authorities will become more active.

With regard to the supply of building materials, your committee were definitely assured that the stocks held by the Ministry of Munitions will at least keep pace with any probable progress of the schemes, so that the only delaying factor to be looked for here will be difficulties of transport.

On the whole of these facts it did not seem possible to reject the estimate of 110,000 houses in the first year, and your committee have, therefore, approached the problem with a sincere desire to assist the Government in carrying out this programme, while at the same time safeguarding the legitimate interests of the building industry.

ESTIMATE OF MEN.

To ask for 220,000 men to build the houses (including the lay-out of sites, making of roads, etc.) means two men per house per year, a figure considerably higher than that to which the trade was accustomed to work before the war. The proposed houses themselves will contain larger rooms, more plumbing will be required, the joiners' work will be of better quality and done on the spot, and there will be fewer party walls. Balancing these factors, your committee were satisfied that the Government estimate was a full one, although, of course, the full force of the demand would not be felt for some time.

DISTRIBUTION OF EXISTING LABOUR.

Building labour can at the moment be roughly divided into five classes:—(a) Men now engaged on building work; (b) men describing themselves as building workmen, and now unemployed; (c) men still in the Army; (d) men who left the trade for other employment during the war; (e) men who left the trade for other employment before the war.

PROSPECTS OF OBTAINING LABOUR FROM SOURCES NAMED.

Owing to (1) the artificial checks on building during the war, (2) the enlistment of half the workmen in the trade, (3) the immense changes which have taken place in the distribution of wealth and the nature and processes of manufacture in this country, there is likely to be from private sources a demand for building other than for housing greater than any this country has ever known.

Owing to general industrial uncertainty, to the uncertainty felt by individuals as to their own movements, and to the very high prices of labour and materials, this accumulated theoretical demand has been unexpectedly slow in becoming effective. The period between November, 1918 and April, 1919, was a period of inactivity, but during the last three months the reserve of unemployed labour has dwindled and is dwindling so rapidly that it is now as low as in the best years before the war. On the other hand, large contractors, who six months ago reported a general lack of confidence and absence of contracts, are now, as far as can be seen, everywhere busy, and in a number of cases are refusing contracts. There seems also to be a general feeling that private work is more interesting, more profitable and less attended by unsatisfactory conditions than the work offered under the housing schemes. On the other hand, from the men's point of view, the work will not need great skill and will,

as a rule, be performed under conditions involving more or less discomfort. Instead of housing schemes appearing, as they are sometimes represented, as the one hope of an unemployed trade, they must stand against severe competition, and there seems to be a direct pull both of interest and inclination in favour of commercial as against this class of work. Your committee, therefore, feel that unless this attraction can be more than counteracted, or some forcible measure such as priority is adopted, there can be no certainty that any of the men now employed in the building trade will be released for, or turned over to, housing work.

For the same reasons little reliance can be placed on the 27,000 building men, about 9,000 of whom are skilled, who are at present shown as unemployed. This figure, of course, includes a number of unemployable as well as men scattered in remote country districts; and it is falling week by week. Your committee feel that the housing authorities should take 10,000 as the maximum number of unemployed men who are likely to be available or of much use to them.

The third great source of supply is the Army. It is unfortunate that not even an approximate estimate can be made at the number of building men now with the colours who have not re-enlisted. The figures got out by the various departments concerned show discrepancies so great that no reliance can be placed on them. The building unions are being asked for more detailed figures, and may be able to supply figures which will make a more accurate estimate possible. The number who can be expected to return to the trade is still more vague for the following reasons:—(i.) The cards upon which calculations are made were filled up by the men themselves, and many men have probably given inaccurate descriptions of their occupations. (ii.) There is no means of checking the number of building men who have re-enlisted, though it may be assumed that the older skilled men are unlikely to have done so. (iii.) Owing to the more attractive conditions offered by other industries numbers of men who have been released may not have returned to their old occupation, and those still to be released may not do so. (iv.) The speed at which the machinery of demobilisation will work will be inconstant and unknown. Your committee, however, decided to hazard an outside estimate of 80,000 as the men who may be expected to be released before May 1, 1920, pointing out that there can be no certainty that these men will go to the houses rather than to other work.

There remain the men who have left the building industry, either during the 10 years before the war, when it lost a quarter of a million men, or who went to munitions and similar work after the war started. The second are clearly the more likely to come back, and it is probable that a certain number of them will return when the last of the munitions contracts are completed. In particular there should be a flow of labour from the aircraft works. On the whole, however, your committee are of opinion that the bulk of the men who wish to return to their old trade have already done so, and that those who are firmly settled into other occupations are not likely to give them up in order to return to a trade of such a discontinuous nature, where much of the work is rough, and where the conditions are often severe. Assuming, therefore, that the trade of the country remains in a condition no further from normal than it is at present it is with one important exception, not likely that any large number of men will be tempted back to it unless a deliberate effort is made to render the conditions of the work more attractive. The knowledge that there is steady work to be had and the ordinary ebb and flow of employment may very probably, however, prove sufficient inducement to a few thousand, to which your committee fixed a maximum of 5,000. The exception to which reference has been made is the stonemasons. This is a declining trade, and an estimate has been given that 7,000 or 8,000 men have left it who would gladly

return if work were available. The result of their enquiry is, therefore, roughly this, that if every available man who is not now actually employed on building work (including the whole of those expected to be released from the army as indicated above) takes up work on the housing schemes, there will still be a deficit of over 100,000 men.

SUGGESTED ACTION.

Many methods were suggested by which this deficit might be made good. Your committee felt that the method of admitting and training labour brought in from outside the trade, to which their attention was drawn by the Press and by speeches made up and down the country, was the last method which should be considered not only in the interests of the building industry, and on account of the opposition which it would provoke, but also because the labour brought in would be useless, if not actually a cause of delay, during the very period when the greatest output was needed. They believed that before any such measure was taken every effort should be made, by adjustments which, though inadequate singly, would have considerable cumulative effect, to utilise and make more productive the existing labour.

ECONOMICAL USE OF EXISTING LABOUR.

They believed that the first step was to secure the best distribution of the men, so that certain classes of work should not be overloaded with labour while other jobs were starved. Experience shows that this is not only wasteful, but has a bad effect on the men subjected to it. To secure the same object they recommend that schemes be so arranged that the men can work with the firms to whom they are accustomed and as far as possible in their own localities, in order that the evils of crowding large numbers of imported workmen together under insufficient supervision may be avoided. Your Committee make no recommendation as to the provision of houses for the men, as they believe that sufficient attention has already been drawn to the subject. Further, your Committee are strongly of the opinion that the almost exclusive use of one medium, i.e., brick, for schemes in every part of the country, leads to sources of labour being neglected which could have been tapped if a greater variety of materials had been used. The outstanding instance of this is the stonemasons. Certain classes of these men are able to build in brick, but their speed is very much less than in stone, and your Committee do not think it proper that the shortage of bricklayers should be accentuated by the use of this material in districts where stone-quarries are close at hand, and where, moreover, the importation of the bricks will add to the already serious strain on transport facilities. The same considerations hold true in a lesser degree of other subsidiary materials. Your Committee are further of opinion that if the local representatives of the trade in the stone districts could be consulted it would be found possible to erect stone buildings at a cost which would not materially exceed that of the imported brick. This is a duty which might well be allocated to the Local Production Committees set up to advise the Housing Commissioners. The Housing Commissioner for England and Wales and the Housing Authority in Scotland should be asked to assign definite duties to the Local Production Committees; among these duties there should be allocated the question of preference to be exercised in using local materials in their various districts (such as stone, brick, or concrete, home-grown timbers, roofing materials, etc., etc.).

Your Committee are also impressed by the extent to which schemes which would otherwise be pushed forward are held up by lack of railway waggons and other transport difficulties. They therefore recommend that every effort be made to provide new railway trucks, to expedite the return of trucks from France, and to reorganise the present traffic system. This process, they believe, would be greatly facilitated by an increase in the railway staffs.

DISTRIBUTION AND FORM OF CONTRACTS.

The next problem considered by your Committee was the best means of persuading contractors to use some part of the labour at

their command on the housing schemes. Private work, though it involves greater risks than the housing contracts, gives also an opportunity for greater profits. Your Committee feel that it would be possible, by minimising the amount of useless work involved in tendering, by removing from firms the necessity of fighting for fair forms of contract, and by distributing the jobs in such a way that the very great number of smaller firms will be able to take up contracts of suitable size, to remove many of the causes which are now said to be deterring contractors from touching the housing schemes. They therefore recommend:—(1) That wherever possible, instead of the present system of tenders, a fair price per house should be fixed by each authority in consultation between the quantity surveyor and members of the Building Trade Association (or Federation), and, if desired, the building unions, and that the work should then be distributed by the Association (or Federation) among its members, arrangements being made for seeing that outside firms who desired to come in were able to do so on fair terms. (2) That in England and Wales the model form of contract now being drawn up with the Ministry of Health, and in Scotland the form drawn up under the Scottish Building Code, be made obligatory in all State-aided schemes. (3) That quantities must be supplied by a qualified quantity surveyor. (4) Sureties.—That no sureties or deposit in any form shall be required from contractors entrusted with the housing contracts, as now required by the Public Health Act. As has been indicated, these measures are neither drastic nor sensational, but your Committee feel sure that if they can be faithfully carried out the difficulty of turning enough of the existing building labour over to housing will be considerably diminished, and the apparent deficit of 100,000 in the men needed during the next twelve months to a certain extent overcome. Your Committee do not feel that they can rely upon the whole difficulty being relieved by these means, and they therefore turned to the consideration of:—(1) Schemes of priority. (2) Methods of increasing output.

PRIORITY.

There can be no doubt that any revival of enforced priority would be unpopular, both with the trade and the public. It was resented during the war, and is at best a rough-and-ready method which secures some sort of labour supply, but cannot be expected to distribute the men that their full capacities can be made use of. It is felt, too, that sections of the public have already suffered heavily through the suspension of building during the war; businesses are hampered through lack of premises, or through the dilapidations which have been neglected during the war, owners of land have been compelled to pay ground rent for long periods during which they were prevented from developing their sites. Your Committee did not believe that the building industry would willingly acquiesce in a policy which seemed to cast a slur on its independence, initiative, and power of expansion. They therefore hope that there will be no need to have recourse to such a method, but at the same time they point out that the housing schemes are more important than certain types of private enterprise, and that if other means fail it may be found necessary to give them precedence. In this case your Committee recommend that the system selected be drawn up in consultation with the building trade.

OUTPUT.

In the view of your committee the first step towards increased output is to assure that proper use is made of economising work by such devices as the standardisation of appropriate items. The information before them is that so far as it is possible this has been done. Your committee were then faced with the question of whether by any legitimate method that did not involve overstrain the output of the individual workman could be increased.

It is well known that allegations of restricted output are commonly made against the building trade, and that the ground given for this practice is the dread of unemployment which hung over building workmen before the war. Your committee took no

evidence and do not desire to give any opinion as to the prevalence of such customs. It is not because they accept the view that under-production is now prevalent that your committee take the view that unless the present rate of output of houses is considerably increased there will be no possibility of erecting the houses in time with the present labour, and fresh sources of supply will have to be tapped. They wish to point out that the first years' figures of 110,000 houses is to be followed by an annual programme of not less than 220,000 and that after the houses comes the reconstruction of the slums, that every man in the industry can now be fully employed over a period of years; that increased production means that the cost of the houses is lessened with a corresponding advantage to the community, and they recommend that a statement be made to the building trade operatives through their unions which shall lay the facts as to the building requirements before the men, and appeal to them to use their best endeavours in the service of the state.

AUGMENTATION.

Your committee are impressed with the urgency of increasing the labour resources of the industry as rapidly as possible and by every legitimate method. As a first step in this direction they wish to bring to the notice of the Industrial Council the present position with regard to apprentices. The lads who entered the army have not come back to the trade, and for five years the normal flow of young labour has stopped. The losses are serious, the need for replacing them is urgent. They, therefore, hope that it may be found possible not merely to attract the usual number of lads to the trade, but by raising the age-limit and making whatever other special arrangements may be deemed necessary to secure at once a source of skilled labour on which the trade will be able to count to a certain extent in three years' time. This method will not provide an unlimited supply, and we doubt whether it will meet the present situation.

Your committee, therefore, are further convinced that any other form of augmentation, that may be found necessary should be agreed upon with this committee, and with such a safeguard we are convinced that the workmen's prospects of employment will not be prejudiced. On this point the committee wish it to be understood that these are only interim recommendations and that they will be glad to consider the question in greater detail if the council so desire.

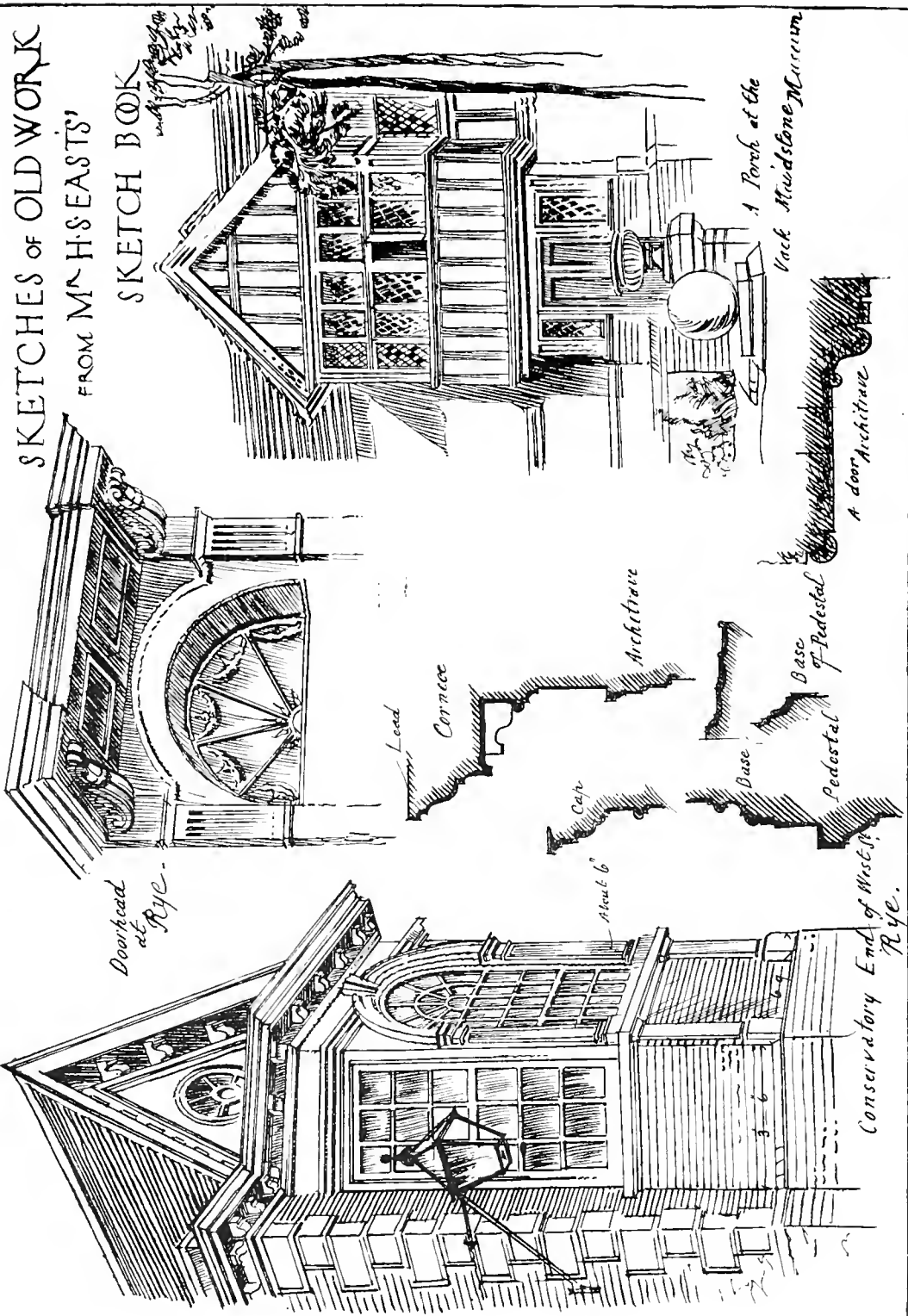
FIRST REPORT OF THE SAFETY AND WELFARE COMMITTEE.

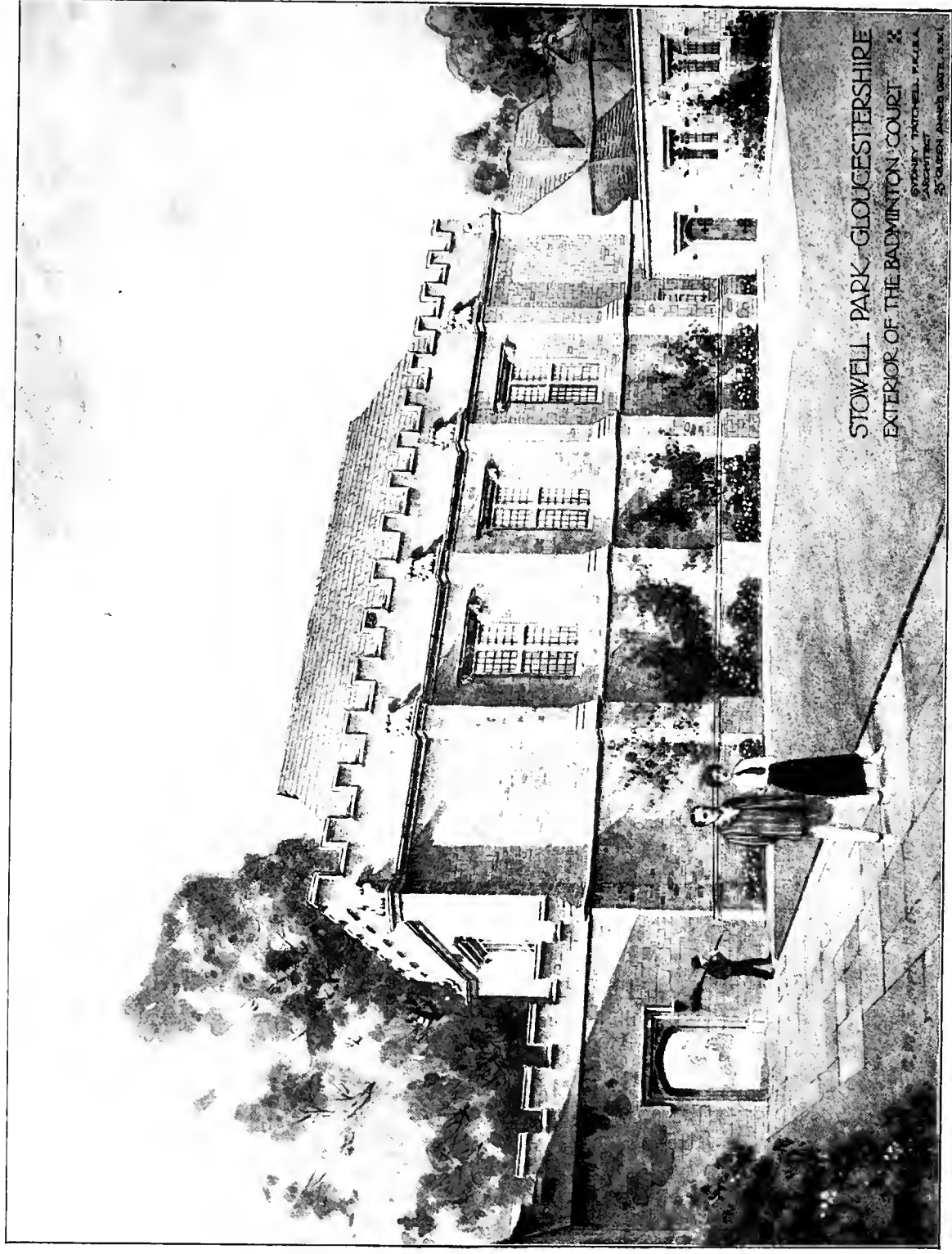
At meetings of the committee, held in London on the 10th and 25th April, proposals were formulated respecting safeguards for some of the principal wood-working machines, and it was arranged to call a conference between the committee and the principal British makers of these machines in order to discuss these proposals. This conference was held on the 27th May and 20th June, 1919, in Manchester, the Board Room of the Federated Employers' Insurance Co. having been kindly placed at the committee's disposal for that purpose. Of the seven manufacturers of machinery who were invited, five were so good as to send representatives: Messrs. J. McDowall and Sons (Mr. A. McKendrick), Messrs. John Pickles and Son (Mr. G. Pickles), Messrs. A. Ransome and Co. (Mr. E. Josselyn), Messrs. T. Robinson and Son (Mr. L. King), and Messrs. Wadkin and Co. (Mr. A. Priestman).

The committee are much indebted to these firms for the valuable assistance rendered by their representatives in discussing safeguards and warmly appreciate the spirit in which the manufacturers approached the problems under consideration. At the conference the proposals of the committee concerning guards were discussed in detail and in some respects amended.

The amended proposals, as set out in the Appendix, for which we have not space, having been passed without dissent by the enlarged committee, are now submitted for the approval of the Joint Industrial Councils concerned. If approved, it is assumed that the

(Continued on page 167.)



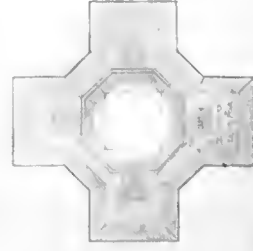
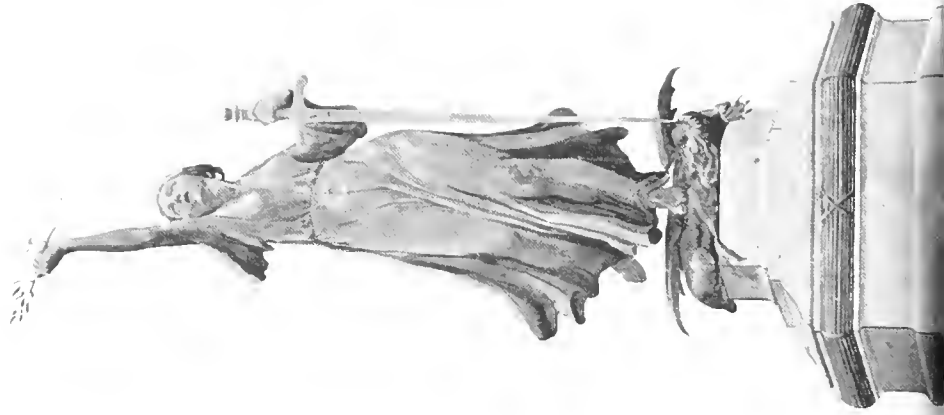


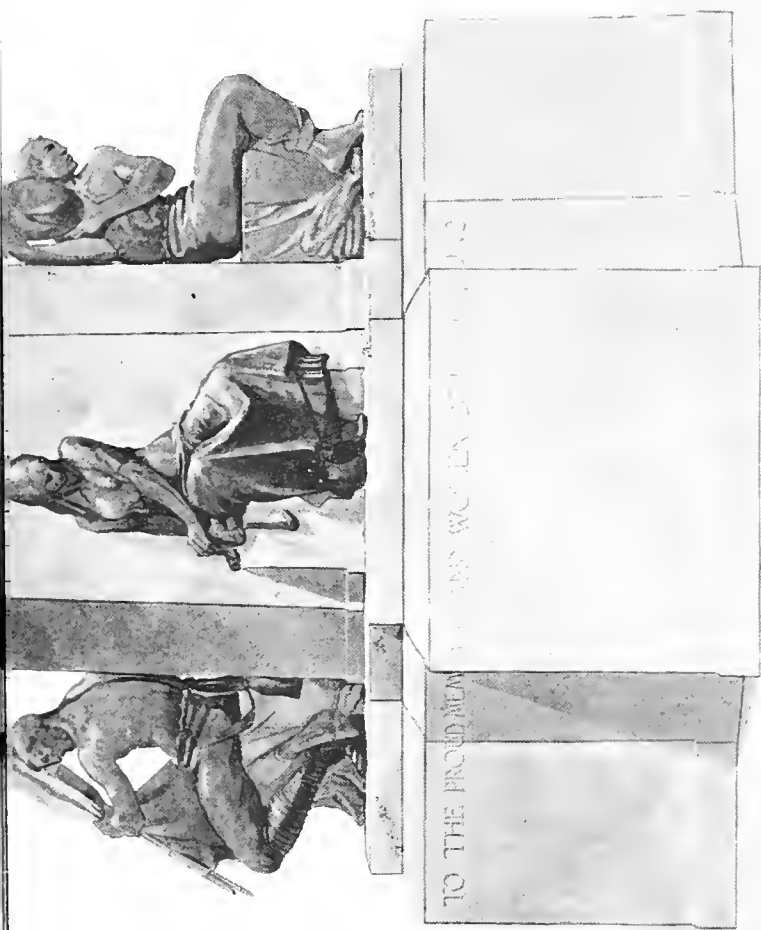
STOWELL PARK, GLOUCESTERSHIRE
EXTERIOR OF THE BADMINTON COURT
SYDNEY TATCHELL, F.R.I.B.A.,
ARCHITECT
STOWELL PARK, GLOUCESTERSHIRE

EXTERIOR VIEW OF BADMINTON COURT, STOWELL PARK, GLOUCESTERSHIRE.
Mr. SYDNEY TATCHELL, F.R.I.B.A., Architect.

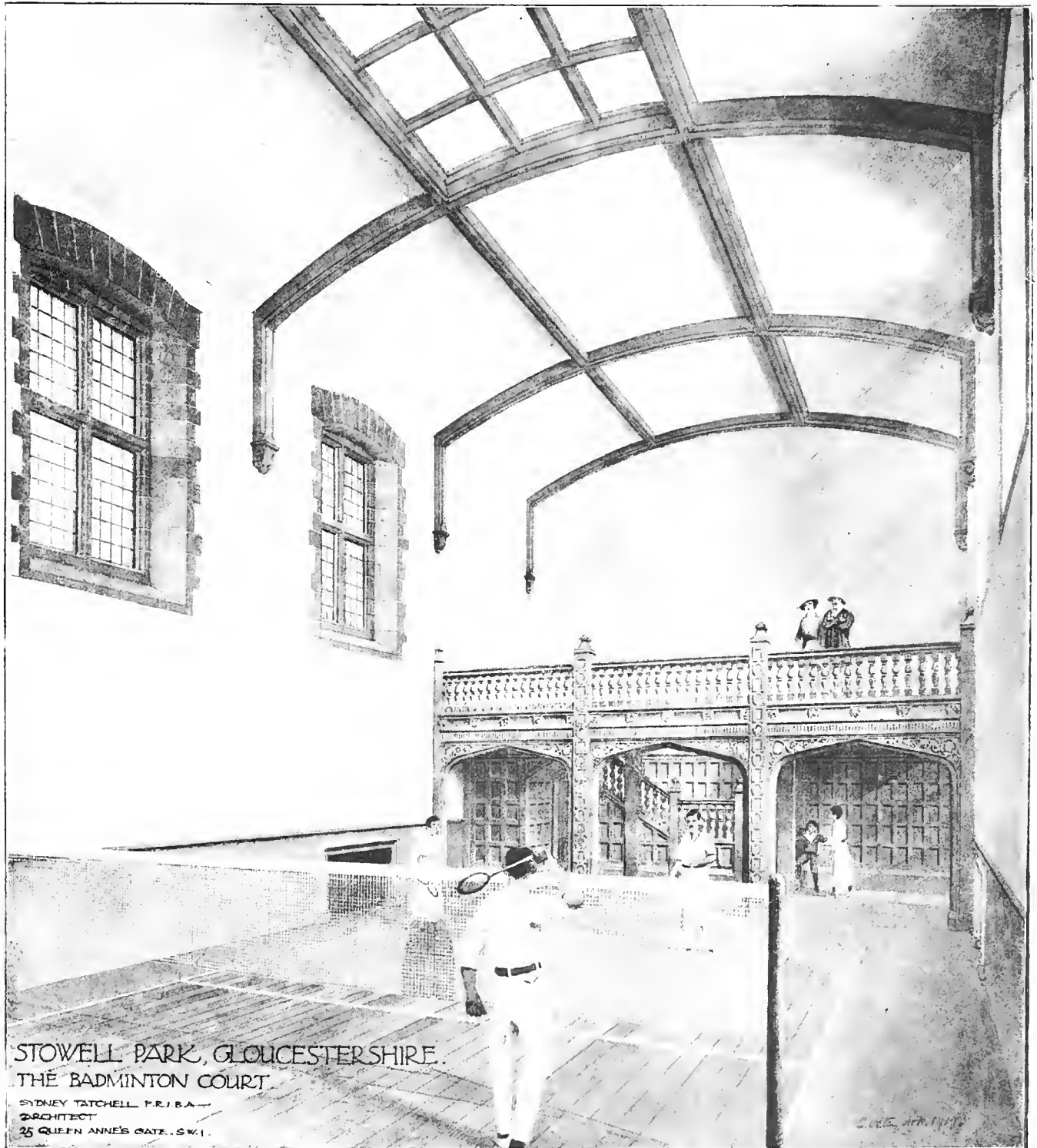
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THE PROPOSED WAR MEMORIAL TO BE ERECTED
IN EXETER





CITY OF EXETER WAR MEMORIAL.—JOHN ANGEL, Sculptor.



BADMINTON COURT, STOWELL PARK, GLOUCESTERSHIRE.
For the Earl of Eldon.—MR. SYDNEY TATCHELL, F.R.I.B.A., Architect.

Fig. 16.

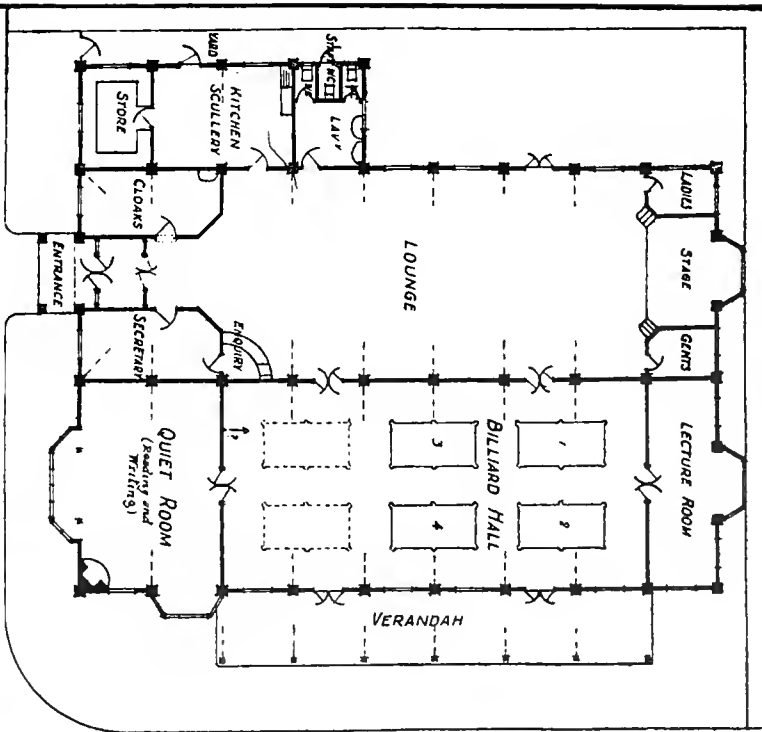
Wmarr. T Young Sec'y Bldg Dep't
National Council of YMCAs
16 Russell Square W C 1

Young Men's Christian Association
New York City

S Phillips Daley MSA
Consulting Architect to YMCA
63 High Holborn WC1 & Roumford

*Shullens Jones M.S.A.
Consulting Architect to Y.M.C.A.
63 High Holborn W.C.1 & Hoveford*

— SCALE OF FEET



RED TRIANGLE CLUB FOR A SMALL VILLAGE, CONSTRUCTED OF SALVAGED WAR HUT MATERIALS.—Mr. S. PHILLIPS DAVES, M.S.A., Consulting Architect, V.M.C.A.



(Continued from page 154.)

proposals will be submitted to the Secretary of State, Home Office, with the suggestion that he should give legal effect to them by means of regulations.

In the appended proposals the committee deal with the more common types of dangerous woodworking machinery, including circular saws, planing machines, and vertical spindle moulders. As regards the use of guards at vertical spindles, the committee regret that they are not able to be more specific in their recommendations, but some of the guards at present on the market, although excellent for certain classes of work, are said to be unsuitable or inadequate for some of the operations performed at the spindle. The committee hope and believe that, in the future, more attention will be paid to the safety of woodworking machines and that an improvement in the standard of existing safeguards will be made.

There is one important additional recommendation which the committee desire to make. As a rule, guards are not supplied by the makers of woodworking machinery, which is often, therefore, installed and worked in an unguarded condition, and many accidents occur before guards are applied. Even when the user (as a result of a visit from the Factory Inspector or otherwise) takes action, the protection provided is frequently inadequate and badly constructed. The committee, therefore, are of opinion that makers (whether British or foreign) of woodworking machines should be required to supply adequate guards with all such machines as are delivered to users in the United Kingdom. The British makers represented at the conference in Manchester on the 20th June agreed with the reasonableness of such a requirement.

The committee are informed that, at present, there is no power to compel manufacturers of machinery to supply guards with machinery, but, if this is so, the committee consider that such power should be obtained.

At the opening meeting last Thursday, at which Mr. James Storrs presided, the Report on the Supply of Building Labour for the Government Housing Schemes, which we give above, was submitted and adopted.

Mr. Thomas Foster, representing the North-Western Federation of Building Trades Employers, presented an interim Report of the Committee on Scientific Management and Reduction of Cost, which we also give, and in which was outlined a scheme for the organising of a public service in the building industry. Mr. Foster said that the worst feature of the labour unrest was, perhaps, that the goodwill that used to exist had departed. Workmen should be induced to give of their best, in favourable conditions, by necessary concessions being made by employers. The task of the Council was to develop an entirely new system of industrial control by members of the industry itself.

Considerable discussion took place on the majority report submitted by a Committee on "the question of scientific management and the reduction of costs, with a view to enabling the building industry to render the most efficient service possible." The report, which we give, which was signed by twelve out of the sixteen members of the Committee (mostly operatives), advocated the "team spirit" in industry as "the only real solution of the whole problem of production," and as "the conception of their industry as a great self-governing democracy of organised public service."

An amendment questioning the conclusions of the report and proposing to refer it to a larger body was negatived by a small majority; but a further amendment (proposed by an operative and seconded by an employer) to receive the report and request the Committee to give the subject further and fuller consideration was accepted unanimously.

At the meeting on Friday a good deal of routine business was taken, and it was decided that one of the Council's rules should be amended so as to permit the Council to delegate special powers to any committee which it might appoint, and, further, to appoint a Sectional Committee for any particular trade.

Mr. Thomas Graham, of Edinburgh, called attention to the delays in the new Housing Scheme and pointed out that two Departments were dealing with the scheme—the Ministry of Health, which looks after construction and design, and the Ministry of Supply, which had to do with the material. Difficulties occurred as a result of this dual control.

In Edinburgh, he said, there had been considerable delay with regard to one of the schemes which the Corporation had decided to proceed with. Their idea was to make the fullest use of local material. In Edinburgh there were stone quarries all round, and one scheme had been accepted and the houses were being put up in stone. The Corporation desired that houses in the second scheme should also be built of stone. In spite of the fact that there was no difference in the contractor's prices between stone and brick, the Ministry of Health Department in Edinburgh said, "No. You must put them up in brick."

The position was that the stone was there and that there was difficulty in getting brick because the brick manufacturers could get prices from the contractors doing private work that could not be obtained from a Government Department. The result was that the scheme was held up.

It was understood that a compromise had now been reached and houses were to be put up, half of stone and half of brick. This was the sort of thing that they were up against, continued the speaker, and the whole weight of the Council ought to be brought to bear upon the Government Departments concerned.

Mr. J. Storrs (Stalybridge) was re-elected chairman, and the conference concluded.

HEALTH MINISTRY'S HOUSING REPORT.

The report on housing progress issued weekly by the Ministry of Health states:—

The number of new schemes received by the Ministry during the week ended August 9, from local authorities and Public Utility Societies is 208. The total number of schemes submitted is 4,003, representing an area of nearly 42,000 acres. At the average rate of 10 houses to the acre, this area is sufficient for about 420,000 houses.

The area covered by the new schemes amounts to just over 1,000 acres. The largest scheme of the week is promoted by the London County Council. The site of 147 acres which the County Council propose to buy is on the Dover House Estate at Rochampton. Another London scheme is promoted by the Fulham Borough Council, who propose to acquire just over 40 acres, a part of the ground at present occupied by the Harlingham Club. The Tottenham Urban District Council propose to purchase 68 acres for housing in their district.

Derby Corporation have the distinction of being first to make use of the provision in the new Housing Act enabling a local authority to take over houses erected or proposed to be erected by private enterprise. The Derby Housing Company, believing that the local authority would not be able to erect houses so soon or so cheaply as themselves, propose to build 114 houses, which, when completed, will be purchased by the Corporation. The proposals have been placed before the Ministry of Health, and actual operations on the site were to have been begun last week.

The Ministry are sanctioning as a temporary measure the purchase by the Eastbourne Corporation of brick Army huts to be used as dwellings. The proposals are to acquire 42 huts, each hut to hold 2 families. The huts will be adapted so as to provide two bedrooms and a living room for each family. Partitions will be erected of concrete slabs up to eaves level and matchboarding above. The huts are fitted with electric lighting, and portable coal cooking ranges are to be provided.

The proposal to erect a Durham County War Memorial has resulted in the decision to erect a monument within the precincts of Durham Cathedral. Before deciding on the design an appeal for subscriptions has been issued.

Our Illustrations.

CITY OF EXETER WAR MEMORIAL.

This memorial is to be erected to the memory of the men and women of Devon and Exeter, on a picturesque site on Northernhay, with the city wall and castle in the background. The memorial is cruciform on plan, with surmounting figure of Victory, the pose of which is of gratitude rather than bravado, the dragon representing militarism. The surrounding figures on base will represent a soldier, a sailor, a Red Cross nurse, and a prisoner of war—many of our men suffering more as prisoners of war than as soldiers, and a great number dying. The city arms will be carved in low relief on the lower block, in front of the pedestal, "Semper Fidelis." The figures will be in bronze, the Victory figure seven feet in height, the monument itself being about twenty-five feet high. The pedestal will be of Cornish granite. The design is by Mr. John Angel, an Exonian, who has recently been elected a member of the Royal Society of British Sculptors.

STOWELL PARK NEW BADMINTON COURT, GLOUCESTERSHIRE.

The Badminton Court is erected on the site of some old stables. The new building is designed to harmonise with the west wing of the mansion which flanks what is known as the Green Court, one of the most secluded and restful parts of the gardens. The corridor leading from the mansion to the Badminton Court forms the north side, and an old embattled garden wall the south of the Green Court. The Badminton Court, in common with all the alterations and additions carried out in recent years for the Rt. Hon. the Earl of Eldon, at Stowell Park, his Gloucestershire seat, was built entirely by the estate workmen from the designs and under the general direction of Mr. Sydney Tatchell, F.R.I.B.A., who has lent us the water-colour of the exterior exhibited at the Royal Academy. We gave some photographs of the garden house and other work carried out lately by the same architect for the Earl of Eldon in *THE BUILDING NEWS* for May 3 and July 4, 1917, also January 30, 1918.

SKETCHES OF OLD WORK FROM MR. H. S. EAST'S SKETCH BOOK.

The museum at Maidstone was, many years ago, well illustrated in *THE BUILDING NEWS* by Mr. Hubert Bensted, F.R.I.B.A. To-day Mr. East shows one of its most suggestive features—viz., the porch on the rear front. Rye, one of the old Cinque Ports, a small, charming, and well-known town set on a hill overlooking Rye Harbour, now a long way from the sea shore, is rich in late domestic buildings, including the distinctive brick-built schoolhouse in the main street. At the end of West Street a big conservatory sort of Georgian bay window, with an arch-headed light in the front, furnishes a suggestive detail included in this page of drawings, and the hooded doorway in the same style, with the carved trusses and fluted pilasters, shows how a simple feature can be managed with restraint and good taste.

RED TRIANGLE CLUB, WITH LARGE BILLIARD HALL, CONSTRUCTED OF SALVAGED WAR HUT MATERIALS.

This is the last of the short series of similar club premises designed by Mr. S. Phillips Dales, M.S.A., for the Y.M.C.A. The previous examples will be found in our issues for April 16 and 30 and July 9—last, when we gave some particulars.

EXPENDITURE OF LOCAL AUTHORITIES IN CONNECTION WITH THE PREPARATION AND EXECUTION OF HOUSING SCHEMES BY THEIR OWN STAFF.

The Minister of Health has had under consideration questions which have been raised in regard to the amount to be charged to capital account and the payments to be made for professional work in cases where State-aided housing schemes are prepared and carried out wholly or in part by salaried officers employed by local authorities. It is assumed that in such cases the local authorities will utilise the assistance of properly qualified architects in designing the houses and that the engineering and surveying work involved will be undertaken by members of the respective professions concerned.

On this assumption, the Minister has decided that the following arrangements shall apply:—

Payments to architectural, surveying, or engineering staff temporarily engaged in a whole-time capacity exclusively for the housing scheme shall be chargeable to capital account and rank for financial assistance.

Where permanent salaried officers of the local authority are employed on the work, a charge for remuneration for additional work in respect of the scheme may be made to capital account and rank for financial assistance. The amount so charged to capital account may include personal allowances to the permanent salaried officers for any extra work involved, provided that such allowances do not exceed one-third of the officer's normal salary in any one year, and do not continue for more than three years from this date unless, in the opinion of the Minister, there are special circumstances which justify an extension of the period.

The total amount to be charged to capital account where the work is done by the staff of the local authority, whether temporarily or permanently employed, shall not in any case exceed the following scales:—

I.—PREPARATION OF LAY-OUT PLANS.

(This work shall include survey, contours, design of roads, and the disposition of houses and other buildings on the site.)

Area of site in acres.	Number of houses.	Amount chargeable to capital account per house.	Total amount chargeable to capital account.
5	50	5 0	12 10 0
10	100	3 9	16 5 0
25	250	3 0	37 10 0
50	500	2 6	62 10 0
100	1,000	2 0	100 0 0
250	2,500	2 0	250 0 0

If the site exceeds 250 acres in area, the figures in the fourth column above should be proportionately increased.

II.—ROADS AND SEWERS.

(This work shall include detail plans, longitudinal and cross sections, quantities, specifications, supervision, and all work required to complete the work in its entirety, except the duties of clerk of works.)

Area of site in acres.	Number of houses.	Amount chargeable to capital account per house.	Total amount chargeable to capital account.
5	50	15 0	37 10 0
10	100	12 6	62 10 0
25	250	10 0	125 0 0
50	500	8 9	218 15 0
100	1,000	7 6	375 0 0
250	2,500	7 6	937 10 0

If the site exceeds 250 acres in area, the figures in the fourth column above should be proportionately increased.

III.—HOUSES.

(This work shall include design, details, supervision, and all work required to complete the work in its entirety, except the duties of clerk of works.)

2½ per cent. upon the first	£7,200.
1½ „ „ next	£36,000.
¾ „ „ remainder.	

Suitable modification of this scale shall be made for repetition work.

No charge to capital account will be allowed in respect of the preparation of schemes which are not approved by the Ministry of Health.

A separate memorandum will be issued with regard to the scale of fees payable to architects and surveyors in private practice which may rank for financial assistance under the scheme.

PROFESSIONAL AND TRADE SOCIETIES.

CAMBRIAN ARCHAEOLOGICAL ASSOCIATION.—With its headquarters at Dolgelly, the Cambrian Archaeological Association last week made various excursions in Merionethshire.

The members, under the guidance of the president (Dr. Boyd Dawkins), the president-elect (Sir E. Vincent Evans, high sheriff of the county), and the hon. secretary (the Rev. Canon Fisher), assembled on Tuesday week and made the first visit to Cynamer Abbey, which belongs to the Cistercian Order, and of which the central aisle, with portions of two aisles, are still standing. A description of it was given by Professor Lloyd, F.S.A., and a discussion on various points of interest was carried on by the president, Mr. T. E. Morris, Mr. Llewelyn Williams, and the Rev. Eyre Evans. After a call at Llanelltyd Church and Rhiwgoch, the company met at Bedd Porius, which has an inscribed stone (regarded as a very early Christian memorial), rescued from destruction by the late Mr. W. W. E. Wynne, of Peniarth. The inscription has been the subject of varied interpretations in the "Archæologia Cambrensis" and elsewhere, and is recognised as having been for many years the battleground of antiquaries. Among Tuesday's company were several "planus" men and others who were pre-Nianus, and still others who were Nianus, but the consensus of opinion seemed to be that of "planus." The figures "1245 E" at the bottom of the inscription were rejected as being of modern date. Arrived at Trawsfynydd, the company assembled in the church, and their attention directed by the minister in charge to various points of interest in the building. After a lunch given at Trawsfynydd by the president-elect, the party moved to Tomen-y-Mur, where Major Charles Breeze, M.P., delivered an address on the chief features in its history. Tomen-y-Mur was first recognised as a Roman station in 1630, and has been described by Professor Haverfield as the unquestionable site of an auxiliary fort. It is situated at a point where two Roman roads cross each other. The most remarkable feature is said to be the great mound of earth, which is not Roman work, but a mound of mediæval fortification. At the evening meeting the new president (Sir E. Vincent Evans) took the chair, and said the field of archaeology in Merionethshire was still untitled. The county contained many examples of ancient monuments, the characteristics of which, however, differed in no important aspects from similar monuments throughout the British Isles. He believed that Merionethshire had not up to the present contributed any evidence of occupation in the paleolithic period, nor did its finds of stone implements throw a very clear light on the succeeding periods. It was not until the bronze age that the district emerged, and it was to that period that were to be attributed practically all the prehistoric finds to be made in or upon its soil.

The Governors of the Royal Infirmary, Halifax, have approved plans submitted by Messrs. Clement Williams and Sons, architects, Halifax, for the erection of a new ward and offices at an outlay of £7,000.

In a written reply to Sir Philip Magnus, who asked when the clerical staff of the War Office in occupation of parts of the buildings of the University of London and of the Imperial Institute would be removed, Sir Alfred Mond states that he is endeavouring to secure that some of the space shall be vacated in time for the next term.

STATUES, MEMORIALS, etc.

AN IMPERIAL MEMORIAL.—The Veterans' Association has decided to build and endow, as an Imperial Memorial, a great club-house near Charing Cross. There will be a thousand beds, and the place will be in every way a worthy tribute to ex-Service men. There will also be convalescent homes in various towns for those whose wounds or sickness necessitate treatment after the sufferers have returned to civil life. To aid this endeavour, collections will be held in many centres throughout the United Kingdom. Veterans' Day in Greater London will be on Tuesday, September 30. Major Lewis, the honorary organiser of the Veterans' Association, 47, Bedford Row, W.C.1, will be glad to hear from ladies and gentlemen willing to help. The names, addresses, and brief biographies of all who assist will be published in a book, and a signed certificate of honourable mention will also be given.

ATLANTIC FLIGHT MEMORIAL.—The Manchester Town Hall Committee yesterday morning considered the design for the commemoration tablet to be erected in the Town Hall, to mark the Atlantic flight, and the fact that the heroes of the flight, Captain Sir John Alcock and Lieut. Sir Whitten Brown, are citizens of Manchester. Designs for gold medals to be awarded by the Corporation to the gallant airmen were also considered, but the committee in regard to both tablet and medals adjourned further consideration until other designs had been submitted.

COLWYN BAY.—The residents of Colwyn Bay have finally decided that the war memorial for the town and district shall take the form of an extension of the present hospital accommodation, on lines suggested by the local medical practitioners, and a monument to be erected on a site to be determined. The estimated cost of the hospital scheme, to consist of fifty to sixty beds, is £50,000, £7,500 of which will be granted by the Red Cross Society as soon as accommodation for an additional fifteen beds is made for the use of ex-Service men requiring treatment. Assistance is also expected from the County Council and the Ministry of Health. The estimated cost of the monument is £3,000 to £4,000.

LOWESTOFT.—A meeting was held in the St. Margaret's Institute, Lowestoft, last week, to explain the scheme of the Lowestoft and district war memorial. There was a meagre attendance. Dr. R. Worthington addressed the gathering, dealing chiefly with the need of an up-to-date hospital in the town—one of the three objects of the memorial. A plan of an up-to-date hospital as suggested for Lowestoft was thrown upon a screen, Dr. Worthington explaining every detail of the building. Mr. Arthur Tuttle reminded his hearers of the two other objects the funds would be devoted to—a club for discharged soldiers, sailors, and airmen, and a memorial tablet. As to the memorial tablet, he did not know as yet what form it would take. It would depend upon what the townsfolk gave. He had already received one promise of £500.

SCOTLAND'S WAR MEMORIAL.—The Duke of Atholl and Lord Carmichael, chairman and vice-chairman respectively of the Committee appointed by the Secretary for Scotland to consider the possibility of the utilisation of Edinburgh Castle as the site of a Scottish National War Memorial, after consultation with Sir Robert Lorimer, A.R.S.A., have unanimously arrived at the conclusion that the Castle Rock is an eminently suitable site for such a memorial. It is proposed that the memorial itself should take the form of a building which should be erected round the apex of the Rock—a building not consecrated according to the ritual of any Church, but one which would always be open for meditation and prayer, and which would be dedicated in all reverence to the memory of those who have given their lives in this war. While it is proposed that the building should occupy this commanding position, the Committee are fully conscious that it must be in strict harmony with and conform to the general contour of the existing buildings. It is not proposed that it should in any way dominate the Rock. In the Committee's report will be found details of further proposals for the adaptation of the principal buildings of the Castle to various purposes. One would serve as a Hall of Record, where the names of distinguished Scottish sailors and soldiers of all ratings and ranks, who have served in any war, would be recorded. Another would form a repository for the trophies of Scottish regiments. A third would provide a home for the great national collection of the Society of Antiquaries. The Committee say that the historic interest of the Castle cannot fail to be enhanced by the presence of a shrine which will remain

for all time a monument of patriotic self-sacrifice on a scale hitherto unknown, and they are of opinion that no site in all Scotland could be as suitable for the memorial which Scottish national feeling demands.

STOCKWELL.—Close on £1,000 has been subscribed towards the erection of a war memorial at Stockwell. An excellent site has been chosen at the junction of Clapham and South Lambeth Roads, an open space in a prominent position in the main thoroughfare. Mr. Norman Tyrrell, a sculptor, of Kennington Park Road, whose father for a great many years has been a regular exhibitor at the Royal Academy, has submitted a design. It represents a clock tower surmounted by a soldier in full fighting kit, and on the sides are figures emblematic of the war. Some difficulty has arisen over the site, which will take some time to surmount.

Our Office Table.

At a meeting of the Eton Rural District Council last week Mr. A. H. Allhusen moved "That this council, having regard to the recommendation of the Select Committee of Parliament that the Government should re-examine the question of the future of the Cippendham Depot at the end of two or three years, and to the possibility that the Government may eventually sell the depot, and having further considered the financial provisions of the Housing Bill, which do not safeguard the ratepayers against a loss arising after March 31, 1927, in connection with cottages provided under that Bill, hereby rescinds its resolution to build 400 cottages on the Cippendham site." On being put to the vote Mr. Allhusen's motion was carried by 11 votes to three, and the clerk was instructed to acquaint the Ministry of Health of the Council's decision not to include the 400 houses at Cippendham in their building scheme.

In the deferred list of Birthday Honours, it is announced that Knighthoods have been given to the following gentlemen:—Joseph Duveen, for public services, more particularly in connection with the extension of the Tate Gallery of British Art. Cuthbert Cartwright Grundy, President Royal Cambrian Art Society; Vice-President of Royal West of England Academy, Imperial Arts League, and South Wales Arts Society. Public and local services. Charles James Jackson, J.P., F.S.A. Well-known antiquarian. Author of leading text books on gold and silver. Has rendered valuable service to Red Cross. Major John Theodore Prestige. Working partner and director, Messrs. J. Stone and Co., Ltd., Engineers, Deptford. Founded 16th Battalion (Deptford) County of London Volunteer Regiment. Later was given command of South-East Group of Volunteer Regiments.

Lord Middleton, in *The Times* of August 14, calls attention to another apparent instance of gross waste of public money by the Government. In December 1917, according to Lord Middleton, the Admiralty decided to build a huge aerodrome for airships near Dorchester. At the time of the armistice little had been done, and the whole scheme could have been abandoned without much loss. After the armistice more rapid progress was made. In May the owner of the ground was told that, although not to be used as an aerodrome, the buildings would be used for the storage of mines. The usual lavish auxiliary building of libraries, storerooms, roads, and so on has taken place. The authorities as usual refuse to cut their losses, which the sudden close of the war made inevitable, and still persist in throwing good money after bad.

"It is a particularly bad case of swindling the company, because the defendant is a builder in a substantial way of business, employing forty or fifty hands, and quite able to pay his fare." So said Mr. Harry Myers, prosecuting at the Guildhall Frederick Atkinson, builder, of Margravine Gardens, Hammersmith, for travelling on the Great Eastern Railway without paying his fare, with intent to defraud. It was stated that he travelled from Chingford with his wife and two friends. When he arrived at Liverpool Street he tried to pass the barrier by tendering the

fare from Bethnal Green. Sir John Baddeley fined him 40s., with 31s. costs.

A life-size bust of Mr. Lloyd George has been made by Mr. James Millard, an octogenarian photographer, portrait painter, and sculptor, of Wigan, who has received from the Prime Minister a letter of thanks for a photograph of the bust, which he has accepted. Mr. Millard's father was an amateur sculptor, while his son, Mr. John Millard, of Heaton Chapel, Manchester, is the modelling master at the Manchester School of Art. Mr. James Millard has been in business in Wigan as a photographer and portrait painter for more than half a century, and was one of the first men in the early seventies to photograph lightning and the sun's eclipse and spots, in connection with which work he was offered a Fellowship of the Royal Meteorological Society.

The Ministry of Health direct the attention of employers and others to the fact that by the National Health Insurance Act, 1919, which has just received the Royal Assent, the limit of remuneration up to which persons employed otherwise than by way of manual labour are liable to compulsory health insurance has been raised from £160 to £250 a year. Employers are accordingly required for the future to pay health insurance contributions in respect of persons employed by them under a contract of service as follows:—For non-manual workers, where the rate of remuneration (including any regular bonus, etc.) does not exceed £250 a year. For manual workers, irrespective of the rate of remuneration. A non-manual worker whose remuneration is over £160 a year but not over £250 a year may, within a limited period and under certain conditions, claim a certificate of exemption, and on the grant of such a certificate the employer's contributions (3d. a week) are alone payable. Forms of application for exemption will be obtainable shortly at any Post Office.

At West Bromwich County Court, on Friday last, Thomas Howse, of Thomas Howse (Limited), Smethwick, sought possession of a house, 63, Union Street, Smethwick, on the ground that it was required for constructional purposes and also as a residence for his chauffeur. It was stated that the premises were let to the respondents, Mr. and Mrs. Ward, on the understanding that they occupied the house only a few months; but when it was required they refused to leave, and consequently the contract price for new premises had increased by £300. A singular feature of the case, mentioned by Mr. Haslam, for the plaintiff, was that the latter had stored in a yard adjoining the premises a number of barrels of oil, including a quantity of explosives, and that defendant's family of four children had been in the habit of lighting bonfires in the yard. The police had been sent for repeatedly, and had access to the premises at all hours in consequence of the danger. Judgment for possession was given, to operate within 14 days.

At a special meeting of the Cardiff Housing Committee on Monday, Alderman W. Roberts, presiding, the city engineer reported that the sanction of the Local Government Board had been obtained for the housing scheme, subject to a number of alterations in the specifications, which, they estimated, would mean a reduction of £39 a house. The main alterations suggested were to take off 18 in. in the walls, leaving the head room of 8 ft. on the ground floor, and 8 ft. 6 in. in the centre, or upstairs, rooms, and the substitution of whitewashed brick for the plastered walls in the scullery. The other alterations were of a trivial character. The chairman said what were now proposed were stables, not houses, and he would rather resign his position as chairman than accept some of the proposed alterations. It meant going back to the jerry-building of forty years ago.—Mr. W. T. Morgan: Why don't they suggest whitewashing all the walls instead of plaster?—The Chairman: They will do that, I daresay, when they get the Bill. We are not further on now than we were three months ago. A motion to adhere to the original height of head rooms was agreed to, and the chairman, Mr. A. J. T. Howell, and the city engineer were appointed as a deputation to place the committee's views before the Ministry.

The *Daily Chronicle* announces a great project for the creation of a big industrial and agricultural "satellite" garden city to house 40,000 people, site secret at present, within twenty-five miles rail service of London. Millions sterling are to be spent on the project, the object of which is to decrease the continually growing congestion of London.. It is claimed that upon an area of 4,000 acres a town can be built—1,500 acres for residence and the other 2,500 for intensive agriculture—that will produce profitably more from the land than in the ordinary way of farming.

It seems probable that the development of the oil-field in West Norfolk will bring in its train a revival of various local industries. The shale beds are part of the Kimmeridge clay series, and this has been extensively used for brick-making at Fodderstone Gap, and other brick-yards on the fringe of Fenland. Vast quantities of clay will doubtless be excavated in obtaining the shale, and will probably be utilised in making bricks for the factories and villages which are certain to be erected in consequence of the proximity of a supply of oil fuel. At the present time, some of the sand which marks the outcrop of the lower greensand is extensively used to provide silica for glass-making, and all over South-West Norfolk and North-West Suffolk, there is an untapped source of supply, as much of the surface soil consists of over 90 per cent. of pure silica, so that glass works may be established to utilise the local products.

The Church Army has a plan for commemorating the British dead, numbering something near a quarter of a million, who died in and about the ruins of Ypres from first to last. The idea is to put up a national memorial in the ruins, in the form of a small church, on the walls of which would be placed the names of all the military units that fought in the salient. The first intention was to have the names of the men who fell written on the walls, but for that to be done a church would be needed as big as St. Paul's. The names, however, will be preserved in the archives of the church. The architecture would probably be in harmony with that of the cloister of Ypres Cathedral, of which a fragment still stands. There will also be—if the plan is carried out—a hostel at the spot, where relatives and friends can be accommodated at a cheap rate. Most of those who go will be poor folk and this is a necessary part of the scheme.

How much has the country lost through stoppages of work since the Armistice was signed last November? It would be difficult to find out to within some millions, but the "Board of Trade Gazette" gives some idea of our enormous loss by the following summary of strikes from January to the end of June this year:—

Trades.	No. of disputes.	No. of persons involved.	Agg'te duration in wks days
Building	74 ..	12,000 ..	166,000
Coal mining	123 ..	564,000 ..	2,700,000
Other mining and quarrying	11 ..	2,000 ..	34,000
Engineering and shipbuilding	112 ..	237,000 ..	4,265,000
Other metal	75 ..	45,000 ..	376,000
Textile	30 ..	469,000 ..	3,246,000
Clothing	43 ..	14,000 ..	144,000
Transport	67 ..	43,000 ..	198,000
Woodworking and furnishing	29 ..	8,000 ..	115,000
Other trades	128 ..	35,000 ..	379,000
Local authority services	55 ..	5,000 ..	54,000
Totals	747 ..	1,434,000 ..	11,677,000

Returns for July are not yet available, but many new strikes involving thousands of workpeople have to be added to the list given above. Six shillings and eightpence has been given as the pre-war daily average earnings per head of the population, possibly equivalent to 15s. 4d. to-day.

Apart from its own scheme for the erection of 450 houses in the Normanton district, tenders for which have already been accepted, the Derby Corporation is arranging for the acquisition of 106 houses which are to be erected at Chadlessden by the Derby Housing Company, Limited. For the purchase of the site the authority is to pay £1,615 12s., or such lower sum as the Inland Revenue valuer certifies as fair and reasonable, while the

price of each house is to be £705, as compared with an inclusive price of £397 for the Corporation houses. The cost of the street works, insurance, and interest on outstanding expenditure, together with solicitors' and architects' fees and out-of-pocket expenses, are also to be borne by the Council. The buildings are to be completed within nine months, and of a similar type to some of those to be erected at Normanton, the accommodation consisting of living room, scullery, kitchen, coalhouse, w.c., and bathroom on the ground floor, and three bedrooms, two of them with fireplaces. The Ministry of Health has expressed willingness to favourably consider the scheme.

At the Spalding Rural Council last week, a drastic report was received from the Housing Commissioner with respect to the Council's housing scheme. Out of 26 sites submitted by the Council, only three are approved. Of the others, 16 are entirely rejected, and the rest are subject to conditions which the Council regard as unreasonable. A number are classified as few sites, only to be used for horsemen and stockmen required to live on the spot, and the Commissioner requires a statement as to the steps to be taken to guard against "subsidence and flood." It was declared that the report was nothing less than official tyranny, and a protest was made against this interference by officials who do not understand the needs of rural localities. It was further stated that the reference to subsidence and floods showed that the Commissioner was not acquainted with the local situation. A proposal was made to place the matter before the Ministry of Health over the head of the Commissioner, but it was decided to meet him on the subject, and request him to reconsider his report.

Under the Government scheme of financial assistance for the higher education of ex-Service officers and men, the total number of grants awarded by the Board of Education now amounts to 5,400, including officers and men in about equal proportions. The courses in respect of which grants have been awarded include more than 1,000 for engineering and technological subjects; between 600 and 700 for classics, philosophy, and literature; and about an equal number for pure science and mathematics. Applications are still being received in large numbers, and are being dealt with at the rate of more than 200 a day.

At a meeting of the Barton-on-Trent Town Council last Wednesday the Housing Committee submitted plans for the erection of twenty-four artisans' dwellings as part of their housing scheme to be submitted to the Ministry of Health for preliminary approval. Alderman Jenkins, chairman of the committee, pointed out that the approximate cost of each house was estimated at £1,000. Although the Government suggested the loss devolving upon the local authority would not exceed the product of a penny rate, representing in Barton-on-Trent £1,200, they stipulated that the rents expected were something like two-thirds of the economic rent. This meant, assuming they had to pay £1,000 per house, that the economic rent would be 32s. 6d. per week, and if they were to receive two-thirds of that, each tenant would have to pay 21s. 8d. per week. From inquiries that had been made the committee did not think it was possible, and if they received 12s. 6d. it would be just about the average that they could expect. In that case the loss per cottage on the whole scheme would be equal to £1. The scheme provided for ten houses per acre, and a house with a parlour, kitchen, and scullery, and three bedrooms. Several members severely criticised the Government's suggestions.

The official organ of the Disposal Board, Ministry of Munitions, published twice monthly, continues to expand with each issue. The sixth number, now on sale, is enlarged to 144 pages, due to increased stocks of surplus war material for liquidation, classified and described in twenty sections. The value of "Surplus" as a comprehensive guide to the immense variety of Government property for sale is enhanced by many illustrations. These include national factories, machinery, etc., and Army bat-

ments adapted for dwellings, such as are now being exhibited on the Horse Guards Parade, London, and at Southampton and Swansea. In this connection it is noted with interest that local authorities will have power under the Housing and Town Planning Bill to consent to the erection of such buildings for habitation in accordance with plans and specifications approved of by the Ministry of Health. Among other illustrations are those of valuable furniture, "Nissen" shower baths, black corrugated steel shelters, matchets (a combination of axe and knife, exceptionally useful for domestic and farm work), and water-tight tin containers, of which there are a million for disposal.

The urban council of Whitwood, near Normanton, is disgusted at the whittling down of its plans for housing by the Health Ministry and say they are reduced literally to jerry buildings and nothing more. Whitwood was one of the first authorities to have its plans ready. The council found that by taking separate trade tenders it could save £1,000 compared with the lowest composite offer, but even so the price per house worked out at £900 without the land. Wondering much what would happen, these tenders were sent in for approval. The reply of the Ministry of Health is contained in seven typewritten sheets, setting out modifications large and small to cut down cost. The firegrate and cupboard must come out of the scullery; glazed bricks in the wall round the sink must go; no headstones over windows can be allowed, and brick arches must be substituted; the scullery must not be plastered, and instead of tongued and grooved boards for floors, they must be straight-edged boards.

OBITUARY.

The death of Mr. Ernest Gimson is a severe loss to the little world of craftsmanship in this country. He was a modest, retiring man, and there are probably many who have felt the subtle influence of his work without so much as knowing his name. He lived and had his workshops at Sapperton, near Cirencester, a neighbour of the distinguished Barnsley brothers. By profession he was an architect, but he is broadly described in the classified list of the Art Workers' Guild as a decorator. And that is what he really was. He made excellent furniture, and his plaster work and metal work were equally good. Gimson made it a rule not to design for others' workmanship. Once asked to design a door for a picture gallery, he would not agree to do so. "It was a building with which I felt myself entirely out of sympathy," he said, "and — only wished for a design for his builder to carry out."

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

RECEIVED: S. D. and H.—A. H. and Co., Ltd.—W. and Sons, Ltd.—S. R. and M.—McN. and Co., Ltd.—T. A. Co., Ltd.—W. W.—M. R. D. C.—B. Bros.—S. F. Co., Ltd.—H. and Son—W. and Co., Ltd.—D. C. E. C. A.—J. T., Ltd.

C. D. V.—No

YOUR SOURCE—Usually

T. AND SON—Thanks; but see our issue of May 7 last.

Road Board grants to the amount of £425,000 have been made for the maintenance of South Wales roads.

Mr. Robert Young, who took an active part in the erection of the Forth Bridge and the old and new Tay Bridges, has died at Leuchars, Fifeshire, aged 79.

It was stated at the half-yearly meeting of the Ealing Tenants' Society that there is no intention at present to proceed with building at Brentham Garden Suburb, Ealing.

Lord Spencer has erected a cross over the grave in Church Brompton Cemetery, Northamptonshire, of a Canadian soldier, aged 20, who died in the village V.A.D. Hospital.

The late Colonel Edwin Montgomery Bruce Vaughan, V.D., aged 62, of Newport Road, Cardiff, architect, chairman of the house committee of King Edward VII's Hospital, has left estate valued at £8,250.

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120, Bunhill Row, London, E.C.

TENDERS.

*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BETHNAL GREEN.—For asphalt roof at Military Hospital, for the Bethnal Green Board of Guardians:—

Val de Travers Asphalt Co. .. £415 0 0

Accepted.

BIRMINGHAM.—For the erection of stores and premises, Soho Road, Handsworth, for the Soho Co-operative Society, Ltd., George Randle, High Street, Smethwick, architect:—

Cox, Percy W., Handsworth, Birmingham £16,447 0 0

BLACKBURN.—For a new generating station at Whitebirk, for the town council:—

English Electrical Engineering Co., Preston, accepted. Total cost estimated at £270,000.

CANNOCK.—For 16 houses, for the urban district council:—

Tooby, Wolverhampton .. £10,720 0 0

Accepted.

DERBY.—For 430 houses, for the corporation:—

Gee and Sons £338,755 17 3

Accepted.

EYNSHAM.—For police cottage at Eynsham, for the Oxfordshire County Council:—

Simms and Son, Oxford £897 0 0

Accepted.

FAKENHAM.—For 12 workmen's dwellings at Fakenham, Norfolk, for the Walsingham Rural District Council, J. Page, architect; W. O. Hampden, surveyor:—

Hipperson, J. H., Norwich .. £10,112 2 8

Emery and Co., Birmingham .. 10,080 0 0

Fisher, Q. W., Fakenham* .. 9,900 0 0

*Accepted.

HELSTON.—For erection of a public mortuary, for the rural district council:—

Trembach and Sons, Breage .. £105 0 0

Accepted.

HORNBY.—For work for the Limesdale Board of Guardians and Rural District Council. Accepted tenders:—

Isaac Parker and Son, Wray, for renovating the council offices, £26 6s. 6d.; Cross and Sons, Lancaster, for work at the institution, £60 10s.

LIVERPOOL.—For erection of houses, for the housing committee of the city council. Tenders recommended for acceptance:—

Ellis, E., Prescott Road, Liverpool, for 100 houses on the Elms House Estate, and Jones, J. W., Allerton Road, Wavertree, for 100 houses on the Lisburn Farm Estate.

MIDDLETON TYAS, YORKS.—For alterations and additions to the Morris Grange, Middleton Tyas, for the North Riding County Council:—

Birch, W., and Son, York .. £10,597 0 0

Recommended for acceptance.

MILNSBRIDGE.—For alterations and additions to the Milnsbridge County Working Men's Club and Institute, J. Ainley, 1, Chapel Hill, Huddersfield, architect. Tenders accepted:—

Pearson E., and Son, excavators, masons, and bricklayers, £300; Harpin Bros., carpenters and joiners, £110; Allison, T., Ltd., plumbers, glaziers, and slaters, £120 6s. 3d.; Day, H., and sons, plasterers and painters, £66; Northern Concrete Co., Huddersfield, concretors, £46 4s. 3d. The rest of Milnsbridge.

OXFORD.—For extension of warehouses, for Messrs. Archer, Cowley, and Co., Gilbert T. Gardner, Lic. R.I.B.A., Oxford, architect:—

Parnell and Son £8,976 0 0

Woodbridge and Simpson 8,199 0 0

Benfield and Loxley 6,987 0 0

Estcourt and Son 6,831 0 0

Kingerlee and Sons* 6,660 0 0

*Accepted subject to modifications.

LIST OF TENDERS OPEN.

COMPETITIONS.

Aug. 22.—Premium of £50 offered for the best lay-out of 36 acres for cottages by Bromborough U.D.C., the selected plans to become the property of the Council. Mr. Badger, Director of Housing for Liverpool, adjudicator. Plan of site obtainable on receipt of 10s. deposit. Designs to W. A. Weston, Clerk to the Council, Bromborough.

BUILDINGS.

Aug. 13—29.—Erection of eight cottages in the parish of Mountnessing.—For the Billericay Rural District Council.—C. E. Lewis, clerk, New Road, Brentwood.

Aug. 21 Sept. 11.—Additions to the High School for Girls, Boston Avenue, Southend-on-Sea.—For the Education Committee.—J. W. Barrow, Secretary, Education Office, 11, Nelson Street, Southend-on-Sea. Drawings may be seen at the offices of the architect, Henry T. Hare, F.R.I.B.A., 2, Gray's Inn Square, W.C.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

New Oak Memorial Pulpit, Harrow School Chapel.
Details and general drawing. Sir Charles A.

Strand, W.C.2

Nicholson, Bart., M.A. Oxon, F.R.I.B.A., Architect.
View from a House in Pall Mall, looking towards St. Martin's-in-the-Fields, 1821. A water-colour by William Hunt (1790-1864).
Sanctuary Buildings for the Labour Board and H.M. Office of Works, Westminster, S.W. Major C. J. Pawley, Architect.
Processional Cross, York Minster. Designed by Messrs. Walter Tapper, F.R.I.B.A., and W. Bainbridge Reynolds.

Currente Calamo.

Next week the BUILDING NEWS will not be published till 2 a.m. on Friday, September 5, instead of on Wednesday, and, thereafter, every week on Friday, as before the war, instead of Wednesday. The alteration from Friday to Wednesday was made then to ensure, as far as might be possible in the congested condition of all means of transit, the receipt of their copies by subscribers in the provinces. The object was achieved, and we are glad to know that readers in nearly every case had no difficulty in obtaining their paper, at any rate, before the expiration of the current week. But the disadvantages of the change were that it has occasionally hindered us from publishing news that ought to have been published, and advertisements which reached us later than 3 p.m. on Tuesday. Now that much more news and many more advertisements reach us later than Wednesday in the same week, we have arranged to revert back to our old day of issue. On and after September 5 next, therefore, the paper will be published at 2 a.m. on Friday mornings, and the latest time for receipt of advertisements will be 3 p.m. on Thursdays.

The pith of Mr. Lloyd George's "explanation" of his policy is doubtless to be found in Section C, which deals with trade matters, but we shall not be surprised by-and-by to find that its real purpose is camouflaged, and that our "Free Trade" friends, on the one hand, who are certain the Premier means to thrust an *ad valorem* tariff down our throats, and our Tariff Reformers, on the other, who are jubilantly sure that "key industries" means practically protection for all home industries, may discover at the coming General Election, if not before, that it is merely a clever net spread to catch the votes that are fast falling away from the Government, and that the "working man," who is really much more a Protectionist than many of those who do not know him think, may be snared in sufficient numbers to give the Premier another innings in the new Parliament, with the assurance that revenue from licence duties means still

higher wages for Labour. Whether we are right or wrong, our objection at the moment is that this tremendous revolution in fiscal policy is to be initiated by Sir Auckland Geddes, without any sanction by Parliament, and at a time when Ministers are holiday-making. We already have quite enough "Protection" of the wrong sort, under which the Beef Trust and the Tobacco Trust find it easy to control prices against the consumer, and to amass huge profits, and in our own industries there are similar combinations which may similarly work mischief of the same sort if they can get on the list of favoured trades and into the good graces of a licensing authority uncontrolled by Parliament, or subservient to some of its members anxious to serve their friends at the expense of the public.

The formation of limited companies for business purposes is increasing. A company has many advantages as compared with a partnership. But there are also disadvantages, which are apt to be overlooked until they are disclosed in the law courts. Architects and engineers, although professional men, can, instead of practising as a firm, register themselves as a company. Yet by so doing they may cease to be legally classed as professional and become men of business. At law a company is a separate legal entity, quite distinct from the persons of whom it is composed, with curious results. This is well brought out in the recent case of "William Esplen, Son and Swainston, Ltd., v. The Commissioners of Inland Revenue." These three naval architects and engineers, who had practised together as a firm, registered themselves as a company, becoming its directors and its only shareholders. Being assessed for Excess Profits Duty under the Finance Act, 1915, they appealed to the High Court. Their point was that the profits made by the company were really their personal earnings for professional work which would be exempt from duty under Section 39 of the Act. Mr. Justice Rowlatt held that the whole concern was carried on by the company, which did the business of naval architects and engineers, and for this purpose employed the three directors professionally. It could not be said that the com-

pany making the profits was itself carrying on a profession within the Act. The exemption only applied to personal qualifications. As a firm, there would have been no liability to Excess Duty, but, as a company doing this business, they were not exempted, and so the appeal was dismissed, with costs.

The forty-second annual report of the committee of the Society for the Protection of Ancient Buildings is much of the character of those of previous years. In some cases the interference of the society has doubtless stopped mere wanton restoration. In the majority, the society's definition of that which makes a building worth protecting, namely, "anything which can be looked on as artistic, picturesque, historical, or substantial; any work, in short, over which educated, artistic people would think it worth while to argue at all," has been sometimes dictated by mere dilettanteism, while in others concurrence appears to have approved of action by one or other of the few architects on the committee, which would have been vigorously denounced if taken by an outside architect of equal, if not greater, eminence. When a structure is actually perishing rapidly, as in the case of the Castle Gateway at Leicester, all the S.P.A.B. can suggest is that "if no chemical can be found to preserve this particular stone, it appears that it would be best to let it crumble away." In others, as in the case of the houses, 4 and 5, Adam Street, Adelphi, where the denial by the architect that they, as alleged, were to be pulled down, was accompanied by an assurance that the property was of plain and uninteresting character, he was told he had missed the virtue of the building, "which had been left plain purposely by the Adam Brothers in order that decorative features elsewhere in the street should tell"! However, the S.P.A.B. means well, if a little freakish occasionally, and we hope the Turks will read the letter which Lord Curzon has sent along, suggesting that Sta. Sophia can only be properly repaired under the auspices of the best brains of Western civilisation—presumably those of the architect members of the S.P.A.B.?

Trade union leaders and master-builders in Birmingham are alike agreed

that increased facilities should be given men who formerly were connected with the building trade to secure release from military service. The building trade is being seriously hampered by lack of men. A trade-union secretary stated last week that he had applied again and again to the military authorities for the release of pivotal men who were wanted for important work, but they were being retained in the Army of Occupation, while men of less importance to the community were being demobilised. Much of the unrest, he added, was, so far as he could judge, due to the housing difficulty. The soldier who came back to start afresh in his civil occupation, finding himself without a home, exclaimed: "And this is what we have been fighting for!" The irritation arising from this fact was a disturbing element, which doubtless found its outlet in various directions, the effect of which it was not always easy to see, and which was probably very far-reaching. Speaking from the employers' point of view, the manager of a large firm of builders in Birmingham said he had met with a similar experience. He had applied to the Secretary of State for War and to commanding officers without effect. A surveyor, twice previously rejected, joined up in 1916, and though he was wanted to prepare the work for the men to take up when the time for their release came, the authorities would not send him back to civil life. Bricklayers, too, were badly wanted, and there were some good men in the Army—but the authorities would not yield to the pressure being exerted on their behalf. It had been promised that 1916 men should be demobilised before the end of November, but the best part of the year, from the builders' standpoint, was being lost through the delay. The Birmingham Building Trades Employers' Association have also passed a resolution strongly opposing nationalisation of the coal mines on the following grounds:—That it would result in less efficient exploitation of the coal resources of the country; the lack of initiative and enterprise in a State Department would delay the adoption of better methods; the cost of production would be greatly increased; the export trade would be seriously affected and the national interests would suffer; the coal miner would be no better, and probably would be much worse, off; State ownership could not eliminate industrial unrest; and that it would be disastrous for the control of the coal mines of the country to be under the direct influence of party politicians, as they would be if they were nationalised. A copy of this resolution has been forwarded to the Prime Minister, the President of the Board of Trade, and the local Members of Parliament.

The one-room house is the latest American suggestion for grappling with the house shortage. It will not, of course, do for unfortunate people with large families or for the new-rich, who will have at least a dozen servants, but why should the childless couple or the man or woman in diggings waste money

and labour on a house with a room to sleep in, another to cook in, another to feed in, and another as bath room? The *Scientific American*, in its issue of August 9, illustrates what its inventor calls a "Revolving House," which does not revolve, but the elements which change the room for the various purposes to which it is to be used do. They are in the form of a cabinet mounted on a turntable and arranged something like a revolving bookcase. There are four sections to this cabinet, in one of which there is a folding bed; alongside the folding bed there is a dresser; a kitchenette occupies another compartment, and finally there is a bookcase and writing desk. By revolving this cabinet so that the various compartments come into service, the same room can be used for sleeping, dressing, eating and "living" in. A large circular opening is cut in the floor near one corner of the room. In this is mounted a frame bearing grooved rollers. On this frame is the base of the turntable, which has a track engaging the rollers, so that it may be revolved readily. A partition cuts off the room just in front of the revolving cabinet, and a door in the partition at one side of the cabinet opens into a bathroom. Another room is fitted up as a bedroom. When the occupant rises in the morning, he folds up the bed in the cabinet, giving the latter a partial turn so as to bring the dresser into view. After he has completed his toilet, another turn of the cabinet brings the kitchenette into service. This is a very complete outfit, with an electric stove and a sink. Down below there is an ice box and there are plenty of drawers in which table utensils and kitchen utensils may be kept. At one side there is an ironing board which may be turned down into service position if desired. Up through the centre of the cabinet there is a pipe which serves not only to steady the cabinet as it revolves, but also to carry off smoke and fumes from the kitchenette. Running water is supplied to the sink through a pipe which has a swivel connection that passes down through the centre of the turntable. As the kitchenette is placed in the wall of the room, the rest of the room can serve for dining purposes. A table which is ordinarily used as a library table is provided with a leaf which may be drawn out for dining purposes, but if there are guests the entire table may be cleared off and used as a dining room table. Having done with breakfast, the cabinet is given another turn, bringing into view the bookcase and writing desk, thus converting the compartment into a living room or library.

Somebody at Melbourne wants the alleged bones of St. George unearthed by Australian engineers from beneath the mosaic floor of a church in Palestine and sent to London, so that the remains of England's patron saint might rest for ever in some cool corner of Westminster Abbey. Canon R. H. Charles, of Westminster Abbey, who speaks as a member

of the chapter, very sensibly scorns the proposal. "I do not care tuppence about his bones," he said emphatically to a *Daily Express* representative. "Just now I am more concerned with the remains of England, if the labour situation does not alter, than the remains of any saint. Besides, there is only room for the remains of six more famous people in the Abbey, and even then they must be cremated before they are interred. So what is the good of bringing his bones here to be burnt in some crematorium?" "None at all," most sensible people will say. We are glad, by the way, if it is true that cremation is an indispensable condition of future interment in the Abbey. We suggested it long ago—mainly for the reason that it would economise space and prolong the possibility of burial in the Abbey of those entitled to the honour.

The problem of utilising the defecated solid matters deposited from town sewage, according to the "*Journal für Gasbeleuchtung*," May 24, 1919, is receiving attention in Germany. A commission appointed by the town of Brunn has for some time past been engaged in an inquiry connected with this problem. By gasifying the substance it may be used as a fuel for industrial heating purposes, and even for lighting. Analysis of the dried material from the Brunn sewage works showed 4.98 per cent. of fatty matters, 3.02 per cent. of nitrogen, and 40.09 per cent. of ash. The elementary composition of this material was found to be, as a mean, 31.04 per cent. carbon, 3.95 per cent. hydrogen, 2.87 per cent. nitrogen, and 35.40 oxygen. Its heating nature is given as 2,908 calories. Experiments in gasifying the dried material resulted in 23.3 cubic metres of gas from 100 kilograms. Theoretically the production of gas should have been 28.9 to 30.4 cubic metres. Later experiments under improved conditions gave 28.6 cubic metres per 100 kilograms, the heating value of this gas being 4,490 calories, against 4,587 calories for coal gas. The author discusses the question at some length, reserving his conclusions for another article.

It is a hundred years since the death of James Watt, and an elaborate programme of celebration has been arranged at Birmingham for September 16. The actual date of his death was August 19, 1819. He died at Heathfield Hall, near Birmingham, a house which still exists, where there is to be seen the attic which was Watt's workshop, preserved exactly as it was in his time. The piece of iron he was last working on lies still on the lathe, and the ashes of his last fire are in the grate. One of the ideas of the Centenary Committee, which seems a little absurd, is to take the garret from its position in the old manor house at Handsworth and re-erect it intact in the central memorial buildings to be put up in Birmingham. In this building will be collected everything of historic value re-

lating to Watt and the steam engines of his period. Another and much more sensible project is to endow a James Watt Chair of Engineering at Birmingham University.

PROFITEERING IN BUILDING.

Probably few but those who have felt where the shoe pinched would believe that during the five years before the war the average builder was doing what little work Mr. Lloyd George's Finance Acts had made possible at something like 20 per cent. less than he ought to have been paid for it. That was one reason why many builders would not touch it, and why so few houses were built. Had it been otherwise—had the gradually growing demand for houses warranted increased charges—the builder would have passed his increased burden of cost on to the public. As it was, and in general contracting work as well, the increasing disposition of some architects and public bodies to accept the lowest tender attracted the more speculative builder, who "chanced it," and whose failure—paying 5s. in the pound, or less—was followed by the completion of the work by his sureties, who had to finish the work at the contractor's low figures. The result was that speculatively built houses were sold at prices 20 per cent. or more below that at which any really decent builder could have erected them, or let at rents altogether unremunerative if the houses had been built under fair conditions.

The speculative builder of this sort was, of course, pretty well bled by the land speculator. How the bleeding was managed is by no means exaggerated in a letter in the *Liverpool Daily Post*, of the 21st inst., evidently by one who knows, and well worth reading:—

"Mr. X. was a bricklayer, or mason, or carpenter—it does not matter which. He had no special knowledge of or aptitude for business, was very illiterate, and a spendthrift. He perceived, however, that he would be able to draw considerably more money for himself each week as a builder than as an ordinary workman. He accordingly called upon a builder's financier who had land to let. The cool admission that he had no capital, nor even the proverbial £25, proved but a temporary obstacle when counteracted by the assurance that he could get plenty of material on credit. Some fairly reliable evidence of this being forthcoming, it did not take long to have the building agreement prepared and duly signed, and in a surprisingly short space of time and in the simplest manner imaginable Mr. X. was transformed from an ordinary workman into a speculative builder.

"All went smoothly for a while. When X. required an advance, which was very frequently, a clerk called from the financier's office, measured the work, noted the material on his employer's land (for it did not yet belong to X.), and before leaving requested the anxious X. to call at the office for the cheque. The cost of measuring the work, of noting the amount of material on the site, and of sundry other favours, such as guaranteeing accounts (for if a merchant doubted the solvency of X. and could not be "turned down," the financier guaranteed the account, and debited the unfortunate X. with 10 per cent. commission for so doing)—the cost of these favours was always deducted from the weekly or fortnightly "draws." But X. did not appear to mind very much. It would make but little difference to him in the long run. Surprising as it may seem, by a careful manipulation of his credit by X. and a subtle manipulation of his lack of credit at the financier's office upwards of thirty houses were completed before the crash came. Then X. failed. When his affairs were wound up he paid 1s. 7½d. in the pound.

"The financier stood in the position of mortgagee, and also proved himself to be an otherwise influential creditor. He eventually became the undisputed owner at less than three-fourths the cost price. When it is remembered that he had made a weekly profit out of X., it will be plain to all that he could sell or let these houses at a price far below what would be possible if built in the ordinary way of business."

The memory of some will recall much bigger failures than that of "X." by some who added other enterprises to simple building, and not improbably were bled to a much larger extent by some of the 'profiteers' who are now advertising the houses and flats at double and treble their value. For the moment, Mr. X. is not wanted by the builder's financier, nor will he be till the profiteer has sold all his houses. Meanwhile, for the little building that is doing, the cost of which is additionally loaded by higher wages and dear materials, the sound builders' estimates are based on the perfectly legitimate desire to obtain a fair price for work done, plus reasonable remuneration for present risks and uncertainties. For it is quite on the cards that our friends who at the Hampstead Garden Suburb last week propounded their schemes for finding capital for building, will, if they are ever successful, shut out the sound builder altogether, if only because our speculative financier will joyfully and perhaps more profitably take a hand in the game which Government is invited to play—as usual, at the cost of the taxpayer.

Every industry, doubtless, has been harassed during the war, but none has been so cruelly handled by Government as our own. But all alike have been brought within range of ruin by the scarcity of to-day, which is the direct result of Government extravagance—to an extent that, rightly or wrongly, suggests the conviction of many that some of its members must have shared with the sharks. The other main factors of trouble, of course, have been the agitation against capital and the proposals for its confiscation, and strikes. Hit by the scarcity of necessities, and envious of those demoralised by the Government by its payment of ridiculously extravagant wages, it is not surprising that workmen have struck for their share of the plunder, ignorant of the basic fact that in proportion to the increase of capital the absolute share of the total product falling to the capitalist is increased, and his relative share is diminished, while, on the contrary, the worker's share is increased both absolutely and relatively. It is still less to be wondered at, that the present disgust with Parliament, and the Government has nearly destroyed all regard for authority not only by Labour, but by the long-suffering middle classes, whose self-denial and economy has not only been exploited by the outside profiteer, but who are sick to death of the shameless profiteering in Parliament and in the Government by the never-ceasing creation of offices, and the unending bestowal of cash, decorations, and titles on politicians and their friends. For all this there is but one remedy—to hasten the General Election, and to spare no effort to oust the self-seekers and those managers of the nation's business who will really work for Peace, Retrenchment, and Reform. The present game of squaring politicians and place-seekers, and bribing interests, and surrender to revolutionaries, can only end in a reign of terror, the horrors of which may far exceed the wreck of order abroad by the Bolsheviks, which some of our rulers seem to anticipate, and resolved to leave to others the chance of grappling with.

The wardens of the parish church, Thrapston, are applying for a faculty for the erection of a screen and panelling as a war memorial. The design is by Sir T. G. Jackson.

BUNGALOW DWELLINGS.

Recent letters in the *Birmingham Post* have focussed attention upon a scheme by which it is asserted, habitable and comfortable houses can be built for a sum of approximately £550 each, which means a saving of nearly £400 on the Corporation estimate. The proposal emanates from Mr. T. Shepherd, of Hall Green, who is now engaged in the construction of a house to demonstrate the truth of his assertion.

Each dwelling is to be a detached villa or bungalow. The accommodation, it is claimed, should be sufficient for the average family, as there will be a room on either side of the front door, two rooms and scullery looking directly into a back garden, and a separate bathroom and wash-house, inside pantry, coalhouse, w.c., vestibule and centre hall with overhead light. Arrangements will be made for every modern improvement, such as hot and cold water, gas heaters, and so forth. The whole accommodation will be contained on one floor, and it is claimed more air and light will be available, whilst troublesome stairs will be eliminated.

The inquiry is naturally prompted as to how the building can be constructed at a cost of £500 or rather more? Clearly it will not be possible upon ordinary lines, with the employment of bricks and mortar. The solution is said to be found in the standardisation of all fittings and the elimination as far as possible of labour on the actual site. It will mean the construction of the walls and roof in sections in the workshop in addition to all the fittings, so that with the foundations established on a selected plot there will only remain the assembly of the various parts, which it is believed can be accomplished in a week. The handicap which is often imposed by unfavourable climatic conditions is thus practically removed. As to the materials of the structure, the walls will be built with asbestos cement sheets both on the outer and inner sides, with an interior framework to contain cement filling, making a total thickness of nine inches. The framework sections, complete with windows inserted, are made in the factory and then taken to the ground, where they are quickly set in position and filled in with solid concrete so as to make a thoroughly substantial structure. The roof will comprise asbestos cement tiles and the window frames will be of steel. This sectional building is founded upon a system which largely prevails in America and Canada. The use of asbestos, it is claimed, will render the walls absolutely damp proof, and will avoid the "sweating" so often experienced with concrete and brick buildings. As to the interior decoration, plaster ceilings and wallpapers are to be entirely superseded. The ceilings will be of steel panels artistically worked, whilst in the principal rooms the lower parts of the walls will be also covered with steel panels to a height of 2 ft. 6 ins., above which there will be the asbestos surmounted by a picture rail and a white frieze. On the principle of twelve houses to the acre the buildings are designed for plots with an area of 403 sq. yds. The frontage will run to 26 ft. 6 ins., and the total depth of the building to 42 ft. 6 ins. The two front rooms have an area of 140 sq. ft. and 107 sq. ft. respectively, whilst the back bedroom runs to 114 sq. ft. and the kitchen to 159 sq. ft.

It has been complained that such dwellings give no scope for architectural effect, and that erected in any numbers they would have an ugly and monotonous ap-

pearance. This drawback can be overcome, it is claimed, by the use of porches, by varying the frontage, by differentiation in the patterns used on the outside, by means of shrubs and trees, and in other ways. The possibility of doing something to meet the shortage of houses by the erection of structures on the lines indicated above is at the moment being examined by several municipal authorities, including Glasgow and Wakefield, in addition to a number of private firms who desire to provide houses for workpeople. So far as Birmingham is concerned the scheme has been brought to the notice of the Housing Committee, who have not decided so far to adopt the system, apparently on the ground that the type of house is one which they are not at present concerned to build. Towards experiments in the erection of such dwellings the committee are believed to be entirely sympathetic, and as the houses will fulfil all the requirements of the Local Government Board and the city bye-laws there should be no difficulty in getting the necessary plans passed. This secured, a house of this type will be put up on a plot in Webb Lane, Hall Green, within a few days. The actual cost, in view of the fluctuating prices of material and labour, is uncertain; but it should not be more than £550, with a considerable reduction where houses of the kind are erected in large numbers. Assuming that a deposit of one-third, £183 10s., is paid, the remaining sum of £366 10s. with 5 per cent. interest can be paid in seventeen years at 12s. 6d. per week.

PORTLAND CEMENT STUCCO.

A committee of the American Concrete Institute at the recent convention of that association prepared a statement setting forth some of the newer information in regard to stucco, which it presented as "Recommended Practice for Portland Cement Stucco."

One of the fundamental considerations in successful stucco work is a suitable design of the structure for stucco. The architect does not always realise that an exterior plaster of any kind merits whatever protection can legitimately be given it, that for the sake of appearance it needs more protection against leakage and drip than brick, stone, or even wood exteriors. Thus it must be recognised that stuccoed copings, cornices and horizontal or nearly horizontal surfaces are more exposed to deterioration than vertical surfaces, that attention to details of chimneys, down spouts gutters, window sills, and overhead flashing will avoid much unnecessary staining and unsightly cracking. The committee therefore suggests that whenever the design of the structure permits, an overhanging roof or similar projection is recommended to afford protection to the stucco. Stuccoed copings, cornices and other horizontal surfaces should be avoided whenever possible. All exposed stuccoed surfaces should shed water quickly, and whenever departure from the vertical is necessary, as at water tables, belt courses, and the like, the greatest possible slope should be detailed. Stucco should not be run to the ground whenever other treatment is possible. Should the design of the structure require this treatment, the backing should be of tile, brick, stone, or concrete, providing good mechanical bond for the stucco, and should be thoroughly cleaned before plastering. Unless special care is taken to thoroughly clean the base and each plaster coat from dirt and splash before the succeeding coat is applied, failure of the stucco may be expected.

MASONRY WALLS.

The committee is of the opinion that walls of hollow tile, brick, concrete, concrete block, and similar materials, are superior to frame construction for the application of stucco, and makes recommendations for the proper preparation of masonry surfaces.

In these recommendations attention is

called to the degree of wetting of the surface, which is important if best results are to be obtained. Too dry a surface will absorb the water from the plaster coat before the latter has had time to obtain its set, whereas a surface which is completely saturated is likely to be covered with a thin film of water, which will prevent proper bond of the plaster coat.

FRAME WALLS.

For frame walls, 12-in. spacing of studs is perhaps desirable in some cases, as, for example, when wire or other type of non-reinforced lath is to be back plastered, but in general such close spacing is not required.

Good bracing of the frame is important to secure the necessary rigidity. Bridging between the studs at least once in each storey height is recommended, whether the frame is to be sheathed or not. In the former case the bridging serves as a fire stop, even if not necessary as bracing, and should be of the same size as the studs (usually 2 x 4 in.). In the back-plastered type of construction where sheathing is not used, bridging is required for stiffening the frame, and should be 1 in. less than the studs in depth. It should be placed horizontally, and 1 in. back of the face of the studs, in order that the back-plaster coat may be carried past the bridging without break at this point. Diagonal bracing at the corners of each wall is recommended, especially when sheathing is omitted. Such bracing may be of 1 x 6-in. boards, 6 or 8 ft. long, let into the studs on their inner side in order not to interfere with the back plastering or the interior plastering. The length of the corner bracing will, of course, depend to some extent on the location of window or other openings.

When sheathing is used, it should be laid horizontally and not diagonally across the studs. The stucco test panels erected at the Bureau of Standards in 1915 and 1916 have demonstrated conclusively that diagonal sheathing tends to crack the overlying stucco by setting up strains in the supporting frame. This result is undoubtedly due to the shrinkage of the sheathing, and whatever benefit might be anticipated from the more effective bracing provided by diagonal sheathing appears to be more than offset by the shrinkage effect. Diagonal sheathing is also less economical than horizontal sheathing, both in material and labour.

Waterproofing of the faces of the studs in back-plastered construction seems to be ineffective and unnecessary, and its elimination is recommended.

TYPE AND DEPTH OF FURRING.

The proper type and depth of furring is a question on which information is desired. If metal lath is applied over sheathing and the commonly recommended practice of filling with mortar the space between lath and sheathing is to be followed, there seems to be no good reason for using furring deeper than 3 in. On the other hand, 1 x 2-in. wood furring is widely used for both metal and wood lath, and there are good arguments both for and against this type of furring. The question of the proper length and gauge of staples for metal lath is involved with that of furring. The entire subject needs investigation. At the present time the committee is not sufficiently well informed to recommend a change, aside from reducing the depth of furring from 1/2 to 3/8 in.

Metal lath should be specified by weight rather than by gauge, and should be always galvanized or painted. Galvanized lath is a good investment in most cases, and is to be recommended in preference to painted lath, unless the method of applying the stucco is such as to insure complete embedment of the metal, as, for example, in the back-plastered type of construction.

A BETTER LATHING JOB.

The results of tests and field observations indicate that more attention should be given to the application of lath to exterior surfaces. Cracks frequently develop in stucco over laps or at junctions of metal and wire lath, indicating a weakness at these points. This may be due in part to reduced thickness of the stucco where the lath is lapped, or to insufficient tying and fastening at the

joints. The ideal job of lathing would obviously be that in which the lath forms a uniform fabric over the structure, without seams or lines of weakness, and with equal reinforcing value in all directions. This ideal condition cannot be realised, but evidence is at hand to indicate that butted and laced, or well-tied horizontal joints are better than lapped joints, and in the case of ribbed lath, that carefully locked joints are better than lapped joints. Vertical joints must almost of necessity be lapped, but the joints may be made secure if they occur over supports and are well stapled at frequent intervals.

The use of wood lath as a base for cement stucco finds many advocates and many opponents, and more field and test data should be available before the evidence for and against wood lath can be carefully weighed. Further information is desired in regard to the type of wood lath best suited for cement stucco. In some of the most satisfactory work reported by the committee, the lath were of white pine, 1 in. wide and 1/2 in. thick. Both material and size were here unusual, but the committee is of the opinion that this type of narrow lath is worthy of consideration. For want of information as to the practicability of specifying any particular kind of wood and unusual dimensions, no change is suggested at the present time. It may be stated, however, that nearly all of the test panels of wood lath erected at the Bureau of Standards developed large cracks, in such a manner as to suggest that narrowed lath (those used were 1 1/8 in. wide) with wider keys and heavier nailing would have given better results. The tests also indicate that counter lathing in which the lath are applied lattice fashion produces no more satisfactory results than plain lathing. In view of the much greater cost of counter lathing the committee recommends that reference to this type of application be omitted from specifications.

INSULATION.

More information is needed on the subject of insulation, particularly in connection with the back-plastered type of construction. At the present time, the warmth of the back-plastered stucco house in comparison with that of the sheathed house is questioned by some, but the available evidence seems to indicate that where insulation has been provided as specified, generally satisfactory results have been obtained. The committee might well undertake to learn what the experience of owners of back-plastered stucco houses has been, in view of the fact that this type of construction has been quite widely used in recent years.

On the basis of the foregoing remarks the following paragraphs relating to the frame structure are suggested:

MATERIALS.

It is believed that hydrated lime should be specified to the exclusion of lump lime, chiefly for the reason that lime which is slaked on the job cannot as a rule be so thoroughly hydrated and so thoroughly mixed in the mortar as the mechanically hydrated product.

The committee also calls attention to the fact that "blended cements" composed of portland cement ground and mixed with finely divided sand or other suitable materials may properly find a place among the stucco materials of the future. One of the experimental panels erected at the Bureau of Standards in 1916 was plastered with a mixture of this type, and has a very high rating, both in appearance and freedom from defects. Further experiments along this line are planned for the future.

PREPARATION OF MORTAR.

The importance of proper and thorough mixing of the ingredients of the mortar cannot be too strongly emphasised. Believing that machine mixing is superior to hand mixing, the committee suggests the preferable use of a machine mixer. The use of hair or fibre is considered optional, and when used the method of incorporation should be such as to insure good distribution and freedom from costs. The maintenance of proper and uniform consistency should be insured by measurement of the water as well as of the other ingredients of the mortar. The question

of retempering mortar is one which will bear further investigation.

MORTAR COATS.

Practice varies widely in the mixture and application of stucco. The use of hair, lime, and waterproofing materials, the variations in the mixtures for the different coats, the number and thickness of the coats, the intervals between the coats, the degree of working of the undercoats, and the precautions necessary in protecting the coats from too rapid drying, are details subject to question, and all will stand further investigation. However, the study of the experimental panels at the Bureau of Standards has yielded considerable information on some of these points.

One of the most important indications from these panels is that lean mixtures containing well graded aggregate give better results than those commonly specified. Mixtures as lean as one part of cement to six or seven parts of graded aggregate have given excellent results in these tests. The committee is of the opinion that the volume of change in rich mortars is accountable for much of the unsightly cracking of stucco, and that no mixture should be used in which the proportion of cement is greater than one part to three parts of fine aggregate.

HYDRATED LIME REDUCES COST OF APPLICATION.

The effect of hydrated lime in cement stucco has also been given considerable attention, and the conclusion which is forcing itself upon the committee is that hydrated lime does not improve the structure of the stucco, but by imparting better quality to the mortar, reduces the cost of application. On the other hand there is evidence that not more than 20 per cent. of hydrated lime, by volume of the cement, should be added to cement stucco if the best results are to be obtained.

There seems to be no good reason for varying the composition of the different coats, but if a variation is to be specified, the scratch coat should logically be the strongest mixture followed by a leaner brown coat, and a still leaner finish. No greater mistake has ever been made in stucco application than the use of a strong brown coat over a weak base or a weak scratch coat. The not uncommon practice of applying a strong brown coat over a lime mortar scratch coat has been responsible for many stucco failures.

The suggestion that the finish coat should logically be leaner than the undercoats immediately brings up the waterproofing question. There are two fundamental points to be considered in this connection; first, that the lean coat is not necessarily lacking in density, and second, that the waterproofing problem in good cement stucco is not one of overcoming permeability, but rather of reducing absorption. The entire question hinges on absorption, and the evidence at hand indicates that a moderate degree of absorption is a much more preferable condition than a surface covered with craze and map cracks produced by the use of a too rich or wrongly manipulated finishing coat. Any waterproofing treatment that alters the natural texture and colour of the stucco may be dismissed from consideration, and the merit of any integral waterproofing in stucco is exceedingly difficult to determine.

EACH COAT HAS ITS OWN FUNCTION.

The question as to number and thickness of coats may be best answered by assuming that each coat of stucco has its own particular function. The scratch coat is the first applied, and its purpose is to form an intimate bond and a secure support for the body of the stucco. On metal lath it also serves as a protective coat, and it should therefore be strong and not too lean. The use of hair or fibre is of questionable value. Hair or fibre should not be used when the space back of the lath is to be filled, and is probably not a necessary ingredient in any case. The committee at the present time would sanction its use only in scratch coats on wood lath, or on metal or wire lath that is to be back plastered or metal or wire lath that is applied over furring deeper than $\frac{3}{8}$ in. The

thickness of the scratch coat should average about $\frac{1}{4}$ in. over the face of the lath.

The function of the second coat (commonly called the brown or straightening coat) is to establish a true and even surface upon which to apply the finish. It forms the body of the stucco, and must fill the hollows and cover the humps of the scratch coat. For this reason an average thickness of $\frac{3}{8}$ in. to $\frac{1}{2}$ in. will usually be required. The brown and finish coats, or the scratch and brown coats, are sometimes combined in two-coat work, which is permissible when the base upon which the stucco is applied is fairly true and even, or when, on account of cost considerations, the best obtainable finish is not required. It is difficult, however, to obtain a satisfactory finish on a coat which runs $\frac{1}{2}$ in. or more in thickness, since the tendency of a heavy coat to bag and slip is likely to produce an uneven surface.

LEAN MIXTURES FOR FINISH COAT.

The finish coat serves only a decorative purpose and has no structural value. Its function is solely to provide an attractive appearance, and any mixture or any method of application that may detract from the appearance, or in any way injure its permanency, should be avoided. Herein lies the argument for lean mixtures, which are more likely to be free from unsightly defects than rich mixtures, and are also more likely to improve in appearance under the action of the weather. The finish coat should be as thin as possible consistent with covering capacity, and may vary from $\frac{1}{8}$ to $\frac{3}{8}$ in. in thickness, depending upon the type employed.

It is obvious from the foregoing that first-class stucco should be three-coat work, each coat serving its own particular purpose. The bond between the brown coat and the scratch coat needs to be strong in order to carry the weight of the body of the stucco, and for this reason it is now considered preferable to apply the brown coat the day following the application of the scratch coat. Except in dry or windy weather little wetting of the scratch coat should be necessary when the brown coat is to follow within twenty-four hours. A slight degree of absorption of "suction" in the scratch coat is probably better than complete saturation, for the brown coat, as well as the others, is necessarily mixed with a larger quantity of water than it requires for maximum strength. The removal of a portion of this excess water by the suction of the undercoat not only improves the quality of the coat, but also ensures a better bond by tending to draw the fine particles of the cement into the pores and interstices of the undercoat.

Whereas the interval between the brown coat and scratch coat, as recommended above, is relatively short, the interval before applying the finish coat should be as long as possible under the conditions of the work. The reason for thus delaying the application of the finish is to enable the body of the stucco to obtain its initial shrinkage and a nearer approach to its final condition of strength and hardness, before being covered with the surface coat. The bond of the latter needs to be intimate rather than of maximum strength, and if the body of the stucco has been allowed to thoroughly set and harden, it may be assumed that the finish coat is less likely to be disturbed by subsequent volume changes in the undercoats. A week or more should elapse between the application of the brown and finish coats.

The finish coat should be applied over a damp, but not saturated, undercoat, for excess water is likely to injure the bond seriously. Certain types of finish, such as the wet mixtures used for sand spraying, or for the "spatter dash" finish, may preferably be applied to a fairly dry undercoat, since suction must be depended upon to prevent streakiness and muddy appearance. The fact that finishes of this type applied in this manner may set and dry out with little strength is not serious; they gradually attain sufficient hardness with exposure to the weather.

Curing the undercoats by sprinkling and protection of finish coats against sun, wind,

rain and frost by means of tarpaulins are always to be recommended. This is not always feasible, however, and the architect should be content to specify and insist upon reasonable precautions. The application of cement stucco in freezing weather should be avoided, and in fact temperatures slightly above the freezing point may allow frost to form on a damp wall. The application of stucco under such conditions is likely to result in failure.

DASH, SAND-FLOAT, AND EXPOSED AGGREGATE FINISHES.

Besides the foregoing recommendations, the committee makes extended reference to methods of finishing stuccoes. Dash, sand-float, and exposed aggregate finishes are each elaborated upon, so as to indicate the method of procedure in each case, and the limitations to which each is exposed. These methods of finishes are described in the following paragraphs:—

It is practically impossible to specify in written paragraphs the methods by which successful finishes are obtained. The quality of these depends upon the knowledge and skill of the plasterer. In the finishing of stuccoes, however, there are certain causes and effects which should be more generally recognised, and the committee believes that a brief discussion of these will help to explain the limitations of the commonly used finishes and indicate the methods to be pursued in the attempt to develop better finishes.

The defects resulting from the expansion and contraction of rich mortars have been referred to. The chance of such defects occurring must be greatest in the finish coat, which is directly exposed to the extremes of moisture and temperature variations. The hope of overcoming these defects lies mainly in the use of leaner mixtures, in which the tendency to movement is cut down as the proportion of cement is reduced. The problem, therefore, is to use less cement and, at the same time, retain the necessary density by improved gradation of the aggregate. Considerable success has already attended experiments along this line, and even better results are anticipated in the future.

All that may be accomplished in this direction, however, will hardly permit a smooth troweled finish to be used. This treatment produces a concentration of fine material at the surface, which will almost inevitably develop fine cracks. In the course of time these cracks will collect soot and dirt and become conspicuous and unsightly. At best the smooth troweled finish is not to be recommended, and specifications should eliminate all reference to it.

DASH FINISHES.

The dash finishes—such as the sand spray, which is obtained by applying a mixture of sand, cement and water with a whisk broom or long fibre brush, or the spatter dash, which is usually a thin mortar containing coarse sand or stone screenings thrown from a paddle, or the rough-cast, which is a mixture of pebbles and cement grout thrown from a paddle or the back of a trowel—are all relatively rich in cement, and all develop fine cracks to a very marked degree, but the rough texture of the surfaces masks these defects, and the type is therefore generally satisfactory and very widely used. The use of these finishes is, in general, to be recommended unless the work is done by a stucco specialist whose skill and experience qualifies him to execute the more difficult finishes to be discussed in the following paragraphs.

The chief objection to the dash finishes as above described is their rather cold, unbroken cement colour, which may be relieved and improved to a considerable extent by the judicious use of mineral pigments. Another means of varying the monotony of the natural grays and whites of the cement is by the use of the dry dash finishes in which clean pebbles or stone chips are thrown against the fresh mortar of the finishing coat while it is still soft. When the dry dash is well selected and the particles thickly and uniformly distributed over the surface, the finish thus obtained is pleasing and possesses decidedly more life and character than the wet dashes.

SAND-FLOAT FINISHES.

The sand-float finish deserves special consideration because it promises to be one of

the most satisfactory finishes of the future. Due to the use of rich mixtures, the sand-float finish has usually developed defects similar to those experienced with the smooth troweled finishes, differing from the latter only in degree. Sand-floated stuccoes which have been covered with paint are to be found in every community, and this alone is sufficient evidence of unskilful manipulation of this finish and of the unsatisfactory results that have been obtained. In the experiments carried out at the Bureau of Standards, the sand-float finish was found to be most satisfactory on mixtures containing not more than 1 part of Portland cement to 4 parts of fine aggregate, and mixtures as rich as 1:3, with a small addition of hydrated lime, were satisfactory as a rule only when the final floating was delayed until the mortar had well stiffened. In this manner the concentration of fine material in the surface was prevented. This experience confirms the necessity for using leaner mixtures than have been specified heretofore, and for removing the cement from the surface by mechanical or other means, if the sand-float finish is to come into its own.

There is no hard and fast line between the sand-float and the exposed aggregate finish, since in the final water-floating process of the former the aggregate is left sufficiently exposed to modify and improve the tone of the finished wall. When the sand-floated surface is further improved by an acid wash, the grains of the aggregate are cleanly exposed. It seems preferable in classification, however, to limit the exposed aggregate finishes to those in which coarser aggregates are employed than would be feasible for the sand-float finish. Thus defined, the exposed aggregate finish is obtained by the application of a coarse mortar containing carefully selected and graded aggregates, so that when the latter are exposed by brushing and cleaning, the resulting texture resembles that of cast concrete which has been subjected to similar surface treatment.

EXPOSED AGGREGATE FINISH.

The committee believes that the exposed aggregate finish will ultimately be developed and come into general use as the most satisfactory of stucco finishes. Commonly available aggregates are capable of giving very beautiful effects, and it has been demonstrated that the colours and tones thus obtained improve with exposure to the weather. A considerable amount of experimental work remains to be done before the best methods of producing these finishes can be specified, but the committee hopes that by hearty co-operation of those agencies interested in the development of improved stuccoes this experimental work may soon be undertaken and carried through to a successful conclusion.

The specifications applying to the various methods of finishing are:—

Stippled.—The finishing coat should be troweled smooth with a metal trowel with as little rubbing as possible, and then should be lightly patted with a brush of broom straw to give an even, stippled surface.

Sand Floated.—The finishing coat, after being brought to a smooth, even surface, should be rubbed with a circular motion of a wood float with the addition of a little sand to slightly roughen the surface. This floating should be done when the mortar has partly hardened.

Sand Sprayed.—After the finishing coat has been brought to an even surface, it should be sprayed by means of a wide, long fibre brush—a whisk broom does very well—dipped into a creamy mixture of equal parts of cement and sand, mixed fresh at least every 30 minutes, and kept well stirred. This coating should be thrown forcibly against the surface to be finished. This treatment should be applied while the finishing coat is still moist and before it has attained its early hardening—that is, within three to five hours. To obtain lighter shades add hydrated lime not to exceed 10 per cent. of the weight of the cement.

Rough-Cast or Spatter Dash.—After the finishing has been brought to a smooth, even surface with a wooden float and before finally hardened, it should be uniformly coated with a mixture of one of sack cement

to 3 c. ft. of fine aggregate thrown forcibly against it to produce a rough surface of uniform texture when viewed from a distance of 20 ft. Special care should be taken to prevent the rapid drying out of this finish by thorough wetting down at intervals after stucco has hardened sufficiently to prevent injury.

Pebble Dash.—After the finishing coat has been brought to a smooth, even surface, and before it has begun to harden, clean round pebbles, or other material as selected, not smaller than $\frac{1}{8}$ in. or larger than $\frac{3}{4}$ in. and previously wetted, should be thrown forcibly against the wall so as to embed themselves in the fresh mortar. They should be distributed uniformly over the mortar with a clean wood trowel, but no rubbing of the surface should be done after the pebbles are embedded.

Exposed Aggregate.—The finishing coat should be composed of an improved, selected coarse sand, crushed marble, or granite or other special material, in the proportion given for finishing coats, and within twenty-four hours after being applied and troweled to an even surface should be scrubbed with a stiff brush and water. In case the stucco is too hard, a solution of one part hydrochloric acid in four parts of water by volume can be used in place of water. After the aggregate particles have been uniformly exposed by scrubbing, particular care should be taken to remove all trace of the acid by thorough spraying with water from a hose.

Mortar Colours.—When it is required that any of the above finishes should be made with coloured mortar not more than 10 per cent. of the weight of Portland cement should be added to the mortar in the form of finely ground mineral colouring matter.

A predetermined weight of colour should be added dry to each batch of dry fine aggregate before the cement is added. The colour and fine aggregate should be mixed together and then the cement mixed in. The whole should be then thoroughly mixed dry by shovelling from one pile to another through a $\frac{1}{2}$ -in. mesh wire screen until the entire batch is of uniform colour. Water should then be added to bring the mortar to a proper plastering consistency.

In conclusion, the committee desires to state its conviction that while Portland cement stucco may develop certain small defects which cannot always be guarded against, the product may be depended upon if applied in accordance with the foregoing recommended practice, to be structurally sound, durable, and capable of giving satisfactory service with little or no outlay for repairs or maintenance. The improvements which may be expected are those pertaining to appearance, and those tending to eliminate smaller faults, which although structural in themselves, are yet more damaging to appearance than to permanency.

Mr. C. W. Thompson has been appointed architect for the Steel Street and Frindsbury housing schemes, Rochester.

A large new addition has been built that will more than double the present accommodation for pictures in the Prado Museum, Madrid. The new buildings consist of 22 large rooms, of which 12 receive light from the roof and are on a level with the main floor.

The church of St. Edmund the King and Martyr in Lombard Street will be reopened on Wednesday, October 1, when the Lord Mayor and Sheriffs will attend in state, and the Bishop of London will preach. The church was a good deal damaged in one of the air raids.

The death is announced of Judge J. A. Rentoul, K.C., of the City of London Court, which occurred shortly before midnight on Tuesday week at his residence, 44, Loxham Gardens, Kensington. He had been in ill-health since February, and on the 2nd of last month he resigned. Two days later the City Corporation voted him a pension of £1,400 a year, seven-tenths of his salary.

Twenty-eight prizes have been awarded by the Underground Railways authorities for the best-cultivated station gardens. First prizes of £3 each to Inspector Tulwell (Northfields) and Inspector Parker (Boston Manor), and four second prizes of £2 each to Platelaver Withall, Signaller Pickard, Inspector Mitchell, and Foreman Harding—the first three of Acton Town and the fourth of Ealing Broadway.

HEALTH MINISTRY'S HOUSING REPORT.

New housing schemes to the number of 180 were submitted to the Ministry during the week ended August 16, bringing the total number of schemes so submitted to 4,172, comprising about 43,000 acres, or land sufficient for the erection of about 430,000 houses. Among the new schemes the largest was one from Manchester, to cover 213 acres.

Plans for more than 14,000 houses have been approved by the Ministry, and progress returns received from different localities, though incomplete, show that work on building has been begun by local authorities alone in the case of about 6,500 of these houses. In addition, a number of schemes promoted by Public Utility Societies have also reached the building stage.

To meet the urgent need for house-room, the measures alternative to the provision of new houses which are now being taken by the Ministry are of two main kinds: (1) The conversion of existing large houses into flats, and (2) the use as civilian dwellings of war-service huts and hostels, camps and other service establishments of various kinds.

As to the conversion of existing houses, steps have been taken to ascertain in every district the number and character of the houses available and suitable for conversion. Very little opposition has been encountered. The returns are now being examined, and in a number of cases the process of conversion has already been begun. London provides most examples of houses suitable for conversion. More than 700 such buildings have already been earmarked for immediate attention, and in several houses the work of refitment is nearly completed.

With regard to the provision of housing accommodation by the utilisation of war-service establishments such as huts and hostels, a department of the Ministry has been detailed specially to deal with the question of temporary accommodation generally. It works in close collaboration with the various Government Departments which have hutments and other such accommodation at their disposal; and arrangements have already been completed whereby no structures which may be suitable or may easily be made suitable for use as temporary dwellings will be disposed of until the Ministry have exercised an option to purchase on behalf of local authorities who may want them. At the same time, local authorities are to be shown the most satisfactory uses to which these temporary structures and establishments can be placed, and encouraged, where the housing needs are especially acute, to use them as a temporary palliative of the shortage of house-room. Some of these huts, as for instance those in camps which lie near densely populated areas, may be used in their present position; others it will be necessary to move.

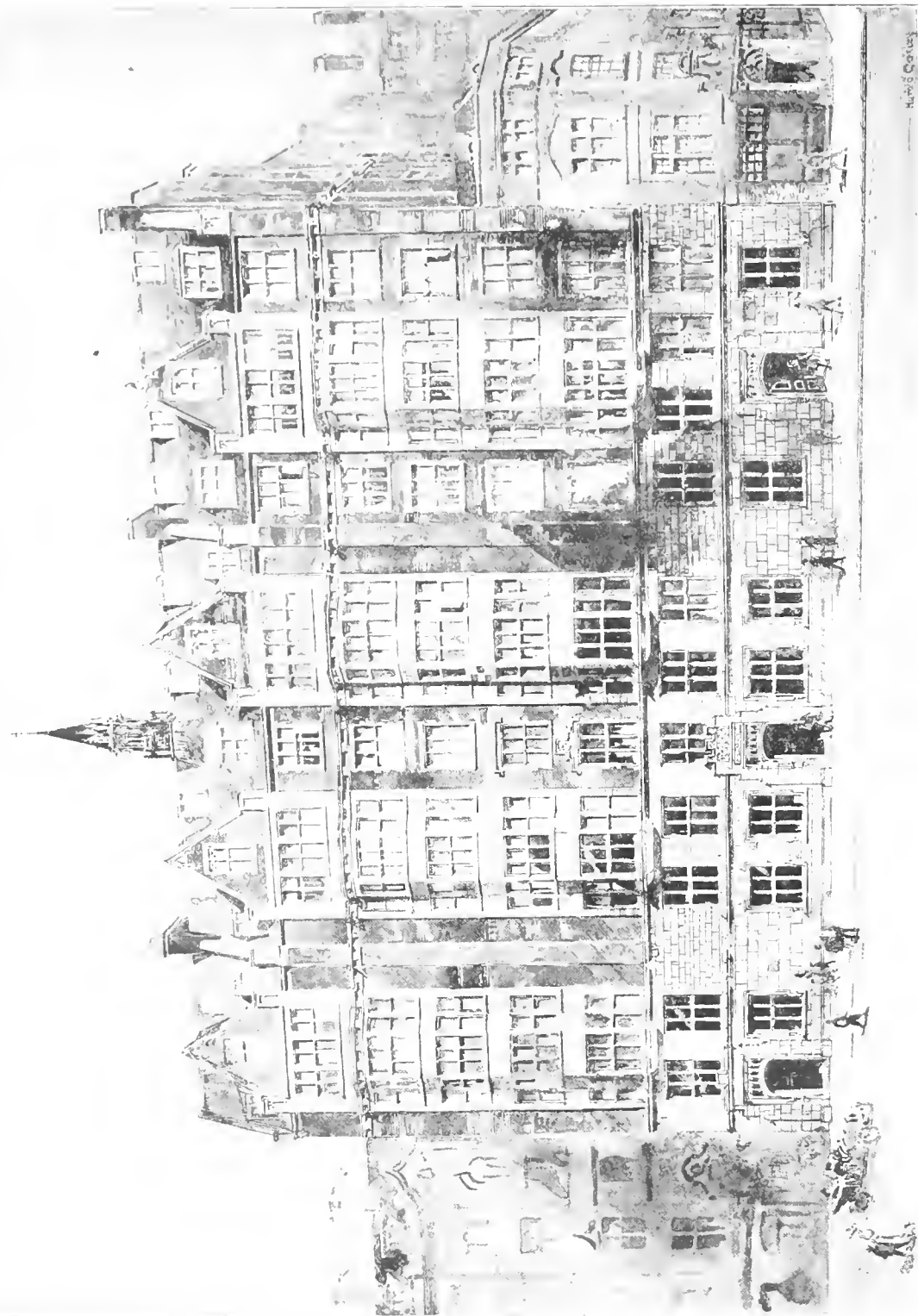
The proposed war memorial for Reading University College is a tower with clock and bell, the estimated cost of which is over £5,000.

Punch hits off one aspect of the Parliamentary trouble in a clever cartoon. Mr. Lloyd George, represented in a haughty or "stand-off" attitude, with the Palace of Westminster in the background, is being addressed by Mr. Bonar Law, who says: "Come and have a look at the old place, once more. I think I could get you in."

Following the decision of the Westminster City Council to offer no objection to the erection of a permanent Cenotaph on the site of the present temporary one, it was stated at the Office of Works last week that the whole matter is still under consideration. Neither the inscription, the material of which the new structure is to be made, nor other details have been settled.

The strike at Messrs. Doulton and Co.'s Lambeth factory did not come off last Thursday week as threatened on the previous Thursday. The expiration of the week's notice was beneficially used in conference, and the result was a friendly settlement—an example, surely, that might always be followed with success, except, of course, where the professional agitator organises "lightning strikes" to provoke irritation and increase his own importance.

THE BUILDING NEWS, AUGUST 27, 1919.

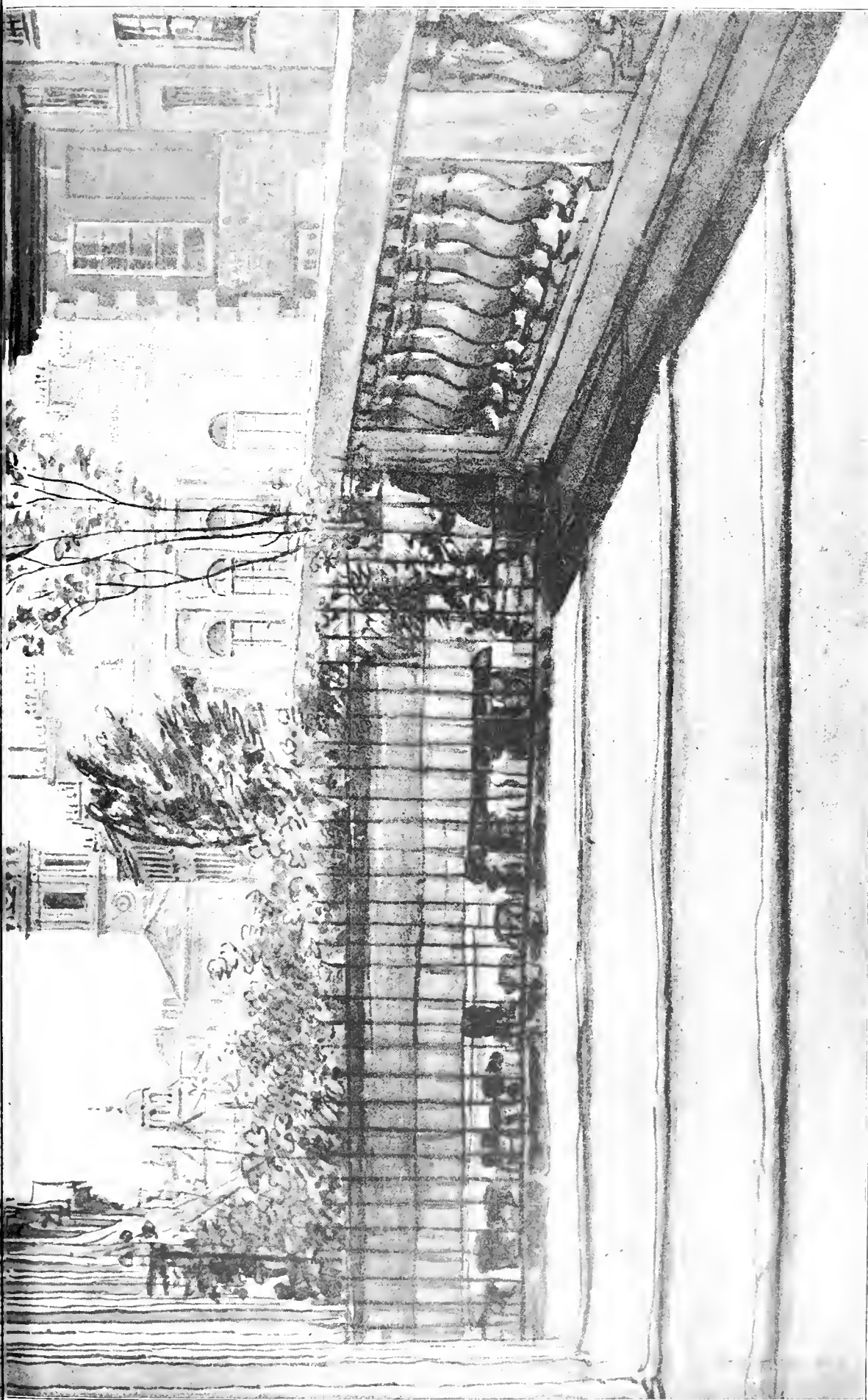


SANCTUARY BUILDINGS, FOR THE LABOUR BOARD AND I.L.M. OFFICE OF WORKS,
WESTMINSTER.—Major C. J. PAWLEY, Architect.



THE BUILDING NEWS, AUGUST 27, 1919.

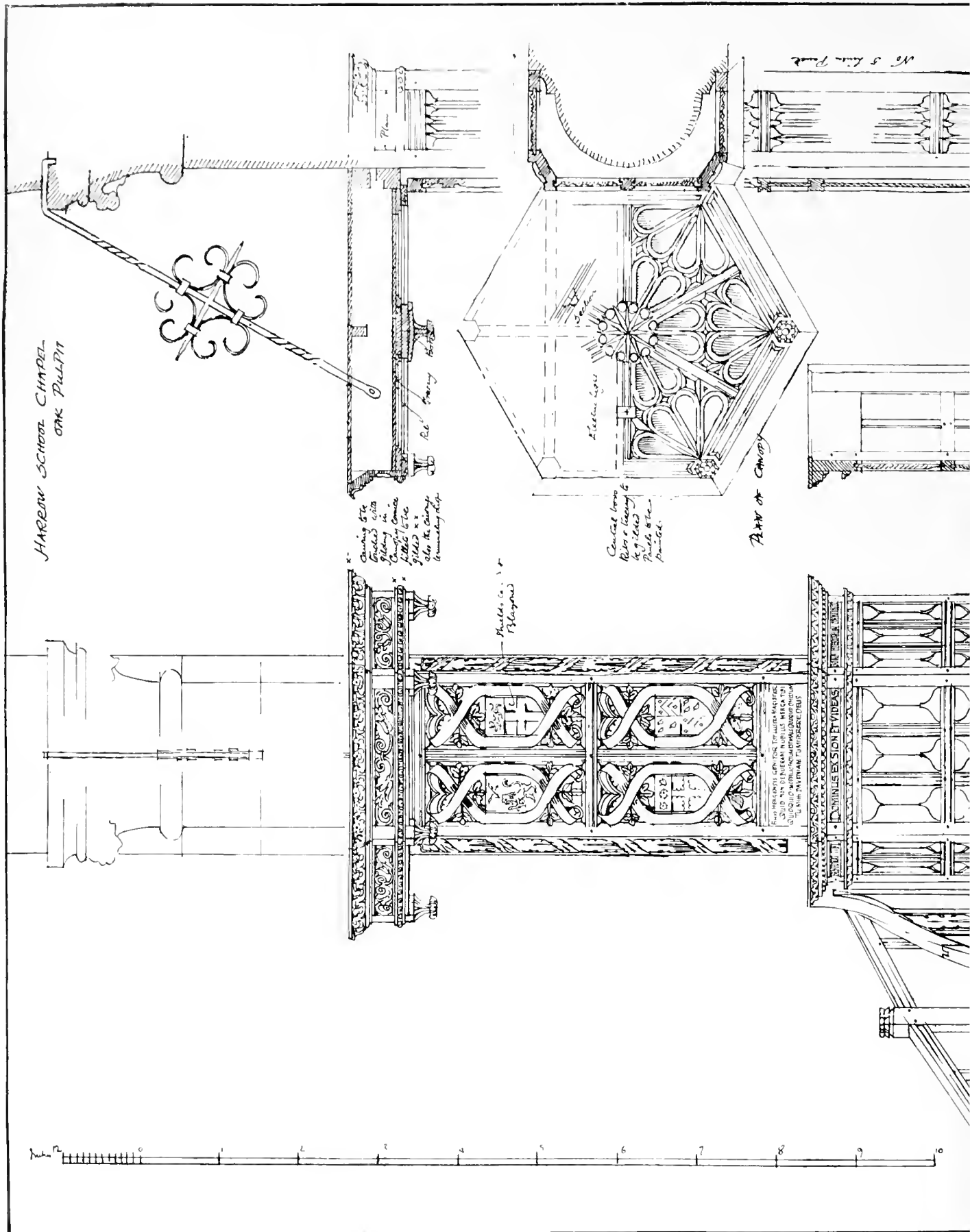


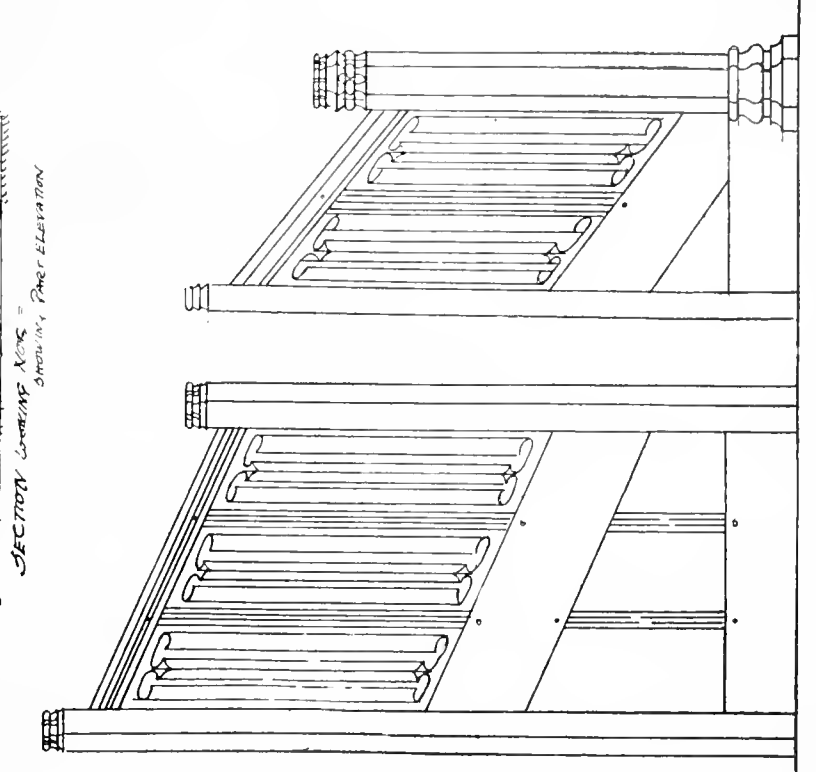
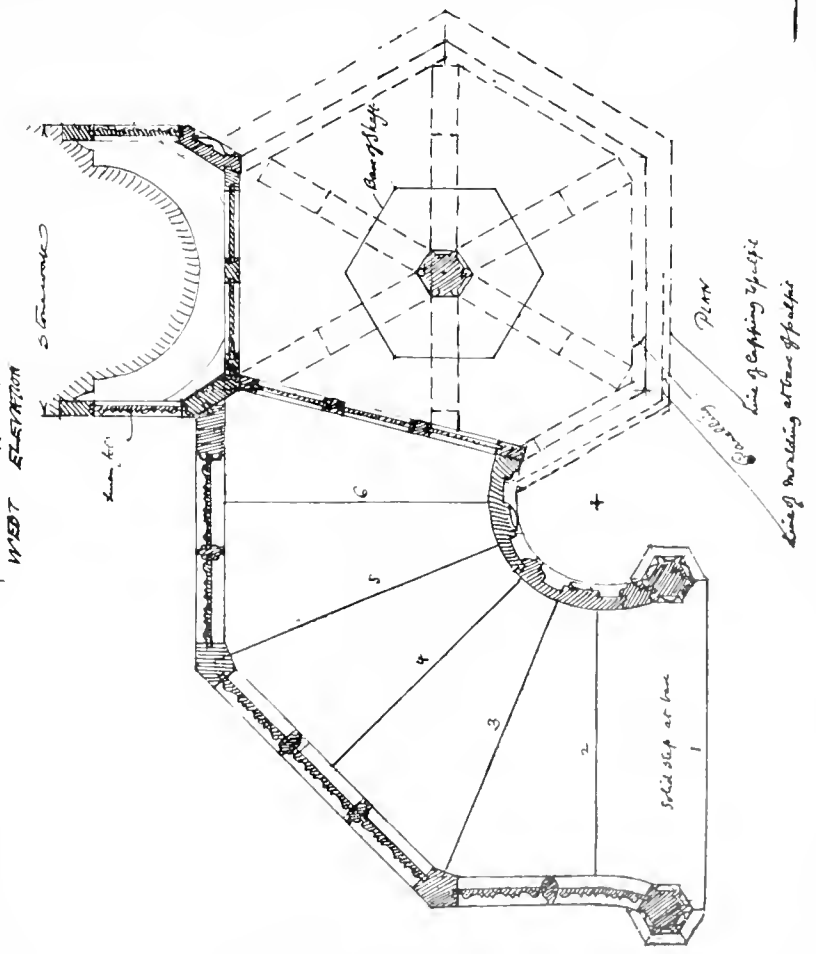
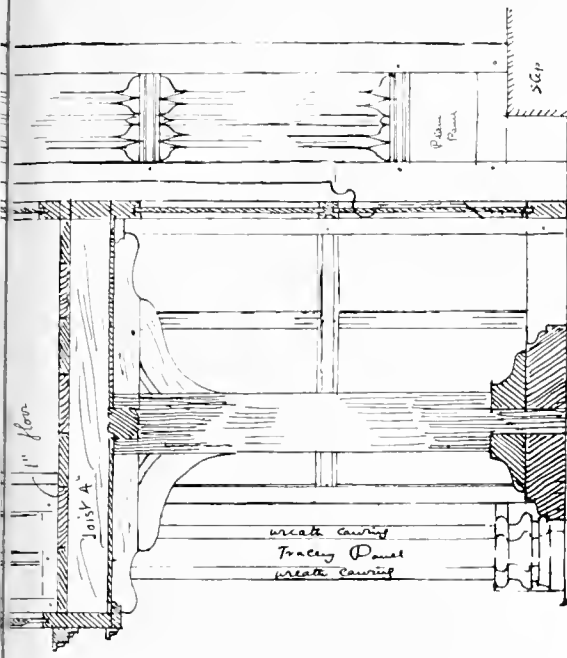
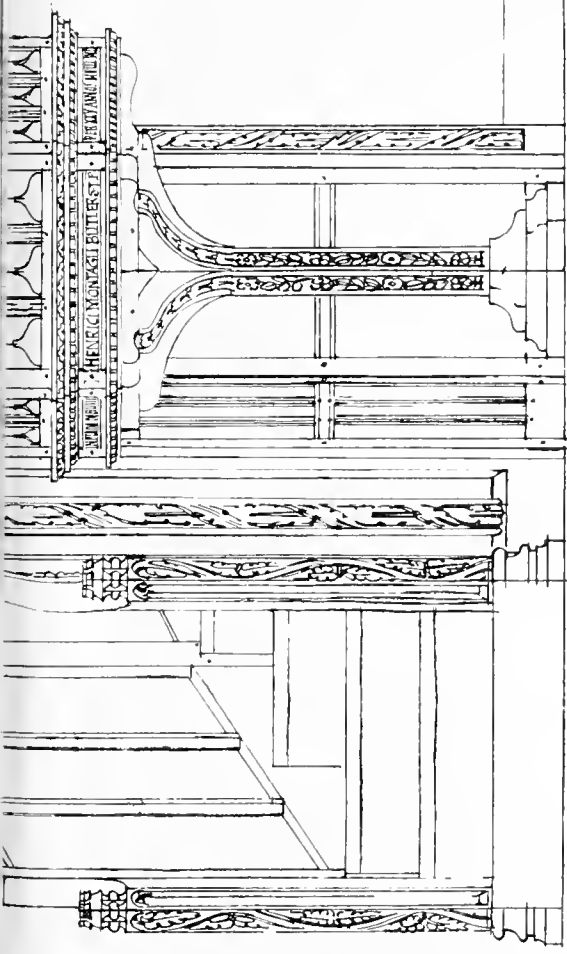


VILLA FROM A HOUSE IN PALL MALL, LOOKING TOWARDS ST. MARTIN-IN-THE-FIELDS. 1824.
Water Colour Drawing by WILLIAM HUNT (1790-1861).



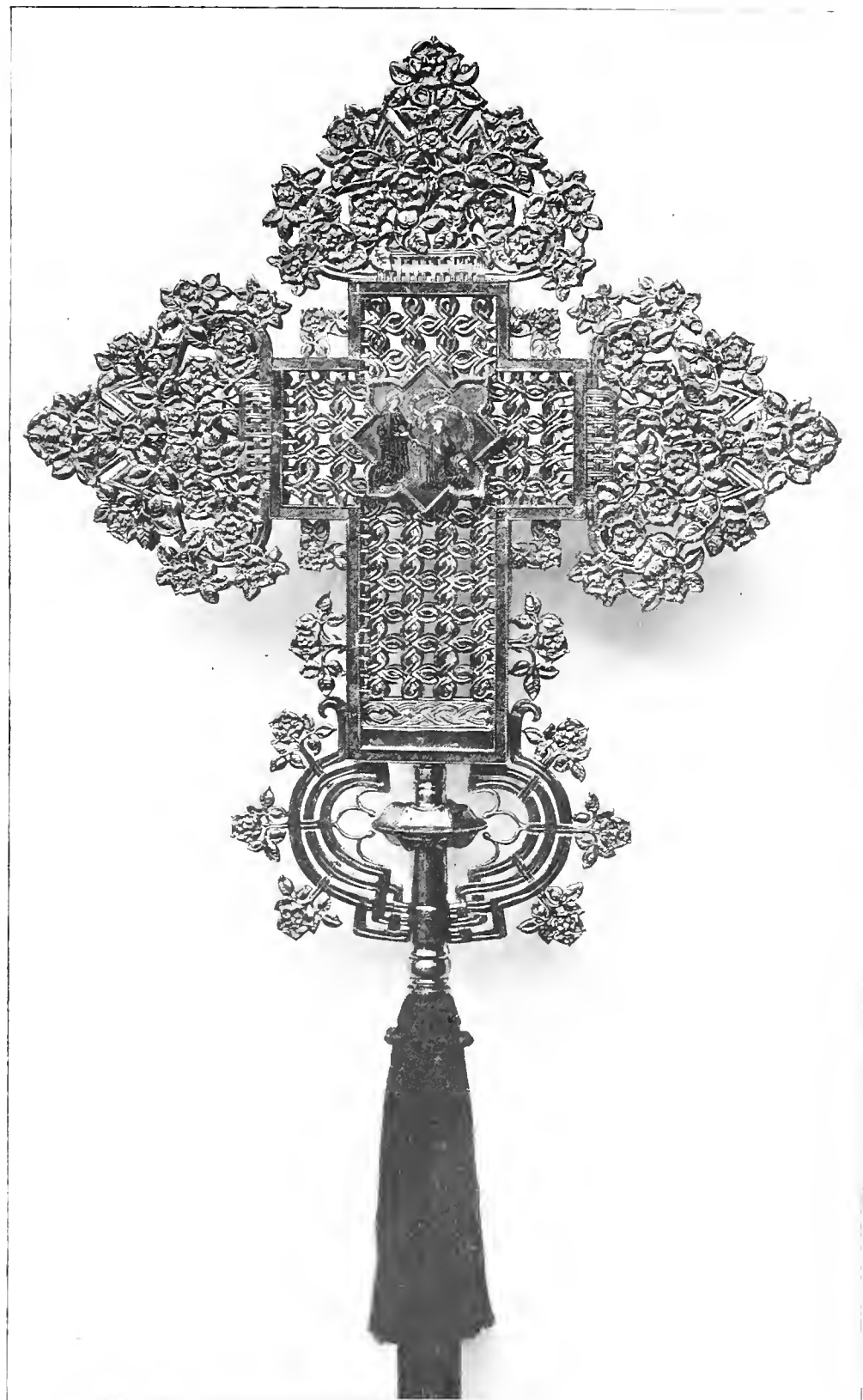
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NEW OAK MEMORIAL PULPIT, HARROW SCHOOL CHAPEL.
 See Chapter A. New York: D. M. C. E. P. A. Architect.





PROCESSIONAL CROSS, YORK MINSTER.
Designed by Messrs. WALTER TAPPER, F.R.I.B.A., and W. BAINBRIDGE REYNOLDS.

Our Illustrations.

VIEW FROM A HOUSE IN PALL MALL, LOOKING TOWARDS ST. MARTIN'S-IN-THE-FIELDS, 1824.

This is the companion picture, painted in water-colour, by William Hunt, to his view of the portico of St. Martin's-in-the-Fields also, but was by Mr. T. Girlin, and reproduced in our issue of April 23 last. Both were shown at the Burlington Fine Arts Club Exhibition of "Early Drawings of London," held earlier in the year. The artist in making this sketch evidently sat on the balustraded, flat projection of a building long ago destroyed. William Hunt looked towards Trafalgar Square and so saw the steeple of St. Martin's-in-the-Fields, as shown. Hunt was born in 1790, and died in 1864. This drawing measures 14½ ins. by 11½ ins., and is drawn for the greater part in brown-ink lines and coloured with unusual freedom, decided firmness, and an artistic appreciation of his subject. The study is dated 1824, and signed by the artist.

HARROW SCHOOL CHAPEL—NEW OAK MEMORIAL PULPIT.

This pulpit is a memorial to the late Dr. Butler; it is to stand against the northern pillar of the chancel arch, and is being carried out in English oak by Messrs. Bowman and Son, of Stamford. On the shields at the back of the preacher are the arms of Harrow School, Trinity College, Cambridge University, and the Butler family. The architect is Sir Charles A. A. Nicholson, Bart., M.A., F.R.I.B.A.

SANCTUARY BUILDINGS, GREAT SMITH STREET, S.W.

This spacious block of Government office buildings are now in course of erection for housing of several Government Departments. The first block has been completed to plans and drawings of the architect, Major C. J. C. Pawley, and is in the occupation of the Labour Board and Canadian Government, etc. The remaining two blocks are now in course of erection, under the supervision of Mr. H. J. S. Adams, 19, Buckingham Street, Strand. The design and drawings were subject to the approval of H.M. Office of Works.

PROCESSIONAL CROSS, YORK MINSTER.

This cathedral processional cross is here illustrated from a large photograph now on view at the Victoria and Albert Museum, South Kensington, in the War Memorial Exhibition, organised by the Royal Academy. The cross might head a military pageant equally well as an ecclesiastical procession, for it is big and handsome in its proportions, but actually it cannot be said to belong to the category of war memorials. As an example, however, of contemporary metal-work, the exhibit is certainly interesting. The cathedral architect, Mr. Walter Tapper, F.R.I.B.A., is responsible for its design, acting in conjunction with the craftsman who made the piece, Mr. W. Bainbridge Reynolds, of Clapham. The cross is in copper, fire gilt.

The Poole Guardians have instructed Mr. Seymour to prepare plans for a mortuary near the gates of the infirmary.

It has been decided that the Cheshire Regimental War Memorial shall consist of the completion of the existing Chester Regiment Memorial Chapel in Chester Cathedral, by the erection of a reredos. The names of the fallen (about 10,000) will be inscribed in a vellum-leaved book to be kept on a desk in the chapel.

DOES PLATE-GLASS FADE?

Several years ago a contract was taken to supply a vertical installation of prisms in a store front of a haberdasher's in the main business thoroughfare of Indianapolis, Ind. To install the prisms properly it was found necessary to cut off 5 ft. from the top part of the plate-glass, which had been in position for a number of years and exposed to the sun's rays during much of the time.

After the prisms had been installed the five-foot piece of plate-glass salvaged was thoroughly cleaned and polished and consigned to stock for resale. In the course of time this salvage piece of glass was sold, to be used in a front window of a new residence in one of the principal streets in the fashionable residence section. The house was completed, and the owner, having taken possession, was thoroughly enjoying the new home, when the family began to receive telephone calls of a rather puzzling and perplexing nature, asking the price and how quickly delivery could be effected in various quantities of *Shirts Made to Order!* A certain wag in the community called up the owner, complaining that he, the owner, had made a mistake in building a shirt factory in that neighbourhood, and that if he persisted in operating a factory in his residence, in all fairness and consideration to his new neighbours he should at least remove all advertising from his front window.

The daughter of the house becoming thoroughly aggravated and annoyed at what she presumed was a practical joke of some sort, proceeded to make an investigation on her own account, which resulted in the writer being requested to call at the house. He was greeted at the front door by Mr. Owner and asked whether the plate-glass furnished was really first grade or second hand? To the reply that, from a close inspection at that moment, it was a beautifully polished high-grade piece of plate, and to all appearances absolutely without blemish, he assumed a knowing smile and asked me to walk down the street with him a short distance, when, turning abruptly at perhaps fifty paces, he asked me to look at the window. To my astonishment plainly legible at the particular angle at which we stood were the words:

JOHN DOE—SHIRTS MADE TO ORDER.

What seemed to be a phenomenon was easily explained. Previous to the plate-glass being removed from the show window of the haberdasher, there had been pasted to it white enamelled letters, "*John Doe—Shirts Made to Order.*" These letters being subjected to the direct rays of the sun for a period of years had prevented the fading of the glass (originally green) to a clear white, as was the case with that portion which was not immediately back of the opaque enamelled letters. The unfaded portion consequently stood out in contrast in its original green, but was not discernible except at a certain angle.

The inhabitants of Princes Risborough propose the restoration of the old Market House as a war memorial.

To provide a literary and scientific institute as a war memorial, the Ebbw Vale Coal and Steel Company allocated 120,000.

Lord Northampton has offered the Islington Borough Council a freehold site, comprising 64,000 square feet, for a housing scheme.

The Wood Green and Southgate U.D.C. are jointly considering a scheme for the establishment of a general hospital at an estimated cost of £120,000.

After standing derelict for several years, Peel Hall, Little Hulton, near Bolton, is to be converted into a sanatorium for tuberculosis patients by the Lancashire County Council.

The Housing Sub-Committee recommend the Hazel Grove and Bramhall U.D.C. to appoint Pierce and Sons, of Stockport, as architects for building 40 dwellings in Hazel Grove, and Adshhead and Topham, of Manchester, as architects for building 20 at Bramhall.

Lord Powis attended a meeting, over which the Lord Lieutenant of Montgomeryshire, Sir W. Williams-Wynn, presided, at Welshpool, and, in supporting a recommendation that the county war memorial should take the form of a 50 ft. column or pillar on Tower Hill, Montgomery, undertook to give the site and a right of way to the summit. Mr. Hubbard was appointed the architect.

IRON OR STEEL FOR HOUSE DRAINAGE.

In order to decide on the merits of house drainage pipes of cast-iron, wrought-iron and steel and of their joints, etc., a New York engineer collected material in seventy-eight of the principal buildings of Broadway, confining himself to buildings of six and more stories, and of more than five years of age, since more recent buildings would not afford much information as to corrosion. Thirteen of the buildings were over thirty years old, only six less than ten years. In the older buildings cast-iron predominated, in more recent buildings pipes of steel and wrought-iron of the screw-jointed type (not caulked).

Particular attention was paid to the roof vent pipes, as they were likely to show the greatest natural corrosion; of the 1,076 vent pipes examined, one-third were cast-iron.

The tests on which this authority relied in his distinction of steel and wrought-iron and as to other features were the following:—In the fracture test the pipe was hammered to the point of fracture; genuine wrought-iron should give a dull grey fibrous fracture; steel an even, bright, crystalline fracture; the zone of galvanised steel peels off in scales under the hammer, while it should stick to wrought-iron without cracking. In the threading test a thread was cut in the pipe; a wrought-iron pipe should give crumbling chips, steel a long spiral. Owing to corrosion, wrought-iron becomes pitted and pock-marked, steel scales off; cast-iron also cuts uniformly. In the acid test the specimens were cleaned of grease and scale and then placed for fifteen or twenty minutes in a cold mixture of water, sulphuric acid, and hydrochloric acid in ratio 9:3:1; the fibrous structure of wrought-iron should then come out, while steel should dissolve uniformly. For the manganese test a chip was dissolved in warm picric acid and to the cooled solution drops of sodium bismuthate were added, until a brown precipitate appeared, the pinkish colour of the solution then indicated the presence of manganese, which would be characteristic of a steel; wrought-iron should not give a pink solution, as manganese is not used in its preparation. This test, Gerhard admits, may be misleading; his other tests might also be questioned, perhaps, but he submitted doubtful cases to further tests.

Finally, he performed a microscopic test after etching the specimen with picric acid; wrought-iron would then show fibres of silicate slag, while steel would show pearlite in fairly even distribution. From his investigations he concluded that cast-iron is satisfactory from the corrosion point of view, but unsatisfactory with respect to the caulked joints, which are apt to turn leaky. Direct joints are superior, provided the pipe could be well screwed into the shoulder of the fitting; exposed portions of the thread should be protected against external corrosion. As regards steel and wrought iron pipes, genuine wrought iron appeared undoubtedly the more durable material.

The French Government has contracted with Messrs. McArthur Brothers, of New York, for the erection of 2,000 dwellings in the devastated regions of France.—Exchange.

In reply to a question from Mr. Gilbert (Southwark, Central, C.I.) as to the number of museums and picture galleries in London under the control of the First Commissioner of Works occupied by other Government Departments, Sir A. Mond said that there were only three such buildings—viz., the National Portrait Gallery, the National Gallery of British Art, and the Wallace Collection. It was hoped that they would be vacated within the next three months.

The Woking Council are much exasperated at delays to their housing scheme caused, it is asserted, by "red tape" in London, and the chairman of the Housing Committee says that he will refuse to carry on unless Government raises its present blockade. It was stated at the monthly meeting of the Council that plans were continually being approved by one department and then disapproved by another whilst the flood of directions and instructions greatly impeded the work. Eight plans were awaiting confirmation.

Building Intelligence.

QUEENSTOWN.—A great religious ceremonial in connection with the consecration of the Roman Catholic Cathedral at Queenstown, which has been erected at a cost of £150,000, took place at Queenstown on Sunday last. The ceremony was attended by Cardinal Logue, Archbishop of Armagh, and many Bishops. The Cathedral, which is built of granite, is the most costly and beautiful Roman Catholic place of worship built in Ireland since the Reformation, and is capable of holding upwards of 6,000 persons. It has a tower and spire 300 ft. in height, and a peal of 42 bells. A special feature of the day's proceedings was the inauguration of the fine carillon of 42 bells by M. Antoine Nauwelaerts, city councillor of Bruges. The Queenstown carillon is tuned to equal temperament to the accuracy of a single vibration—a very rare achievement. M. Nauwelaerts is one of the best representative exponents of the modern Belgian school of carillon playing. He included in his three programmes the prelude in C major of Bach and the slow movement from Beethoven's "Pathetic" Sonata, and a number of operatic selections and arrangements of songs. The architect of the Cathedral was Mr. G. C. Ashlin, whose portrait we published in our issue of February 28, 1890.

IMITATING THE SURFACE OF HARD WOODS.

The following discovery concerns the treatment of soft wood so that its surface appearance becomes not only the same as that of hard wood such as oak, ash, chestnut, etc., but the surface itself shows the real properties of hardness, density and strength which are peculiar to the hard woods.

A piece of wood having the properties of soft wood is taken and a number of cuts or incisions are made close together in the longitudinal direction of the fibre in such a way as to copy the arrangement of the surface pores peculiar to the hard wood it is desired to imitate. The depth of these incisions should be about 2 mm. The surface so treated then receives a "mineral" coating, generally consisting of an oil and a mineral substance made into a paste, to which is added the colouring material suitable to the wood it is desired to imitate. This material is rubbed into the surface pores artificially produced so that the pores are completely filled up, the excess remaining being wiped off. The substance in question is composed in such a way that it permanently hardens in the pores, forming on the surface a mosaic embedded in the wood. The wood thus treated can then be polished or treated in any of the other ways usual in practice. The advantages claimed for this process is that a surface equally as hard as that of the hard woods is obtained, but the remainder of the wood can be worked equally as well as the soft woods that have not received the treatment. Owing to the hardness of the surface, the soft wood presents all the advantages of density, fine appearance, and capability of taking polish which are peculiar to the hard woods.

A suitable mineral substance for filling the pores is composed of: 3 parts corn starch, 1 part pumice and 6 parts of "silver polish" (precipitated and finely-ground chalk). The materials are ground and worked up into a paste by adding oil and turpentine. (*Zeitschr für Drechsler; Kunststoffe*, No. 13, 1919.).

The builders' men in Buckingham are on strike, the labourers demanding 1s. per hour instead of 9d., and the tradesmen 1s. 3d. instead of 1s. The builders state that, owing to contracts, they cannot at the moment agree to the increase.

In view of the decision to pull down the Church of St. Alphage, London Wall, the Ecclesiastical Commissioners have agreed to pay £10 in each case where persons who have recently buried relatives beneath the church desire to remove the remains. After September 30 all unclaimed remains will be re-interred at Hford Cemetery.

FABRICATED LUMBER AND THE HOUSING PROBLEM.

The housing problem is countrywide in its reach in the United States, writes Mr. Robert G. Skerret in the *Scientific American*. If the estimates of the various authorities be correct, there are several hundred thousand families in America who cannot find the accommodation they desire or to which they are accustomed. Is there anything distinctly novel in housebuilding which will help measurably to meet the present need and also offset hereafter the higher prices which are likely to prevail for years to come?

The structural steel worker—and this incidentally includes the designer or architect—has been achieving many of his amazing results in the last decade or so by reason of the standardised materials turned out at the steel mills. Going a step farther, these plants have cut and prepared their plates, angles, beams, etc., so that only a minimum of labour would be required to assemble these units at the building site. In a kindred way the fabricated ship has come into being. Why, then, should standardised lumber parts not find a corresponding and helpful field of usefulness? Native genius has answered this question in a thoroughly practical fashion.

Engineering cunning and practical experience have come to the rescue in the shape of cut-to-length lumber which is so cleverly machined at the economically-located sawmill that the finished products can be assembled with a marked saving in time and outlay. Not only that, but, within some limits, the house builders can be recruited from the very commonest of labourers.

The tenons are on the opposite faces at the ends of the studding, joists, etc., and, therefore, there is no right or left to be considered—either end will fit the designed mortise. Because of this feature, assembling becomes fool-proof.

Very large quantities of this standardised lumber have been shipped to Mexico, where the labourers were unskilled and could neither read nor write. The different parts were painted a distinctive colour on one end, and similar colours were marked on the blueprints which designated the locations for the pieces. In this simple fashion the peons were guided, and the structures were reared correctly and with creditable speed. As a matter of test, buildings of this lumber have been erected in this country by blindfolded mechanics; and recently a string of houses seven miles long was put up of this novel, standardised material.

During the European conflict, the United States Government employed this lumber extensively for war construction work both here and abroad because of its time-saving, freight-reducing characteristics. To-day, the Federal authorities have released their exclusive claim upon the system, and the home builder, face to face with the problem of making his dollars go as far as possible, can now have recourse to this fruit of native cunning.

At Prestatyn, where several publicans were fined last Thursday for over-charging for beer and whisky, the Inspector who gave evidence said he was served with what was known as "a small Lloyd George." That was a measure introduced to help the publicans in dividing up bottles of spirits.

Ralph Albert Blakeblock, the American landscape painter, died last Saturday week at the Summer Camp of Friends in the Adirondack Mountains. His greatest works were painted in obscurity between 1890 and 1900, and were sold for £10 to £15 to support his wife and family. The highest price he is known to have received for a picture in those days was £100, the same picture being bought by the Toledo Museum in 1916 for £4,000. One picture, which he left at Twenty-third Street Y.M.C.A. to pay his bill, sold a few years ago for £500. Worry and the hard struggle for existence eventually produced a mental breakdown, and he was removed to an asylum where he remained until a fund was raised by some New York newspapers, to have him removed from the asylum and cared for during the rest of his life. Blakeblock was born in 1847, and was self-taught.

Correspondence.

THE HOUSING PROBLEM AND FREE TRADE.

To the Editor of THE BUILDING NEWS.

Sir,—At a conference of the Industrial Council of the Building Trades it was announced that there existed at the present time a shortage of half a million working-class houses in the British Isles, to which number must be added a normal need of 100,000 houses per year. It was recently announced in the Press that the lowest tender received by a local authority in the southern counties for the erection of policemen's cottages ran into four figures per house, and now we learn that the lowest tender the Whitwood Urban Council (Yorks) can obtain for the erection of working-class houses is £900 each exclusive of the cost of the land.

No great knowledge of economics is required to make it clear that such prices are prohibitive. How does the Government propose to meet the difficulty? In the Whitwood case, the Ministry of Health recommend that the houses (already small enough) be made smaller, that cupboards and fireplaces be abolished, and that the sculleries should not be plastered. Could absurdity be carried further?

Why is the cost of present house building so high? The answer to the question is not far to seek. It may be found in the Board of Trade list of embargoes, as revised to July 31st. This list of goods which may not be imported without licence from places outside the British Empire includes the following: Arch supports, baths, bells (door), cement, earthenware, cocks (gas and water), glassware, hardware, joinery (builders), locks and padlocks, meters (electric, house services), nails, painters' colours, pipes (cast-iron and fittings), pipes (rainwater), pipes (soil, guttering), press buttons, slates (roofing), stones and slates (dressed), stoves and ranges, and manufactures of wood. All these things enter into the building of houses, and the restrictions imposed upon the importation gives the home manufacturer a practical monopoly, of which he has not been slow to take advantage.

Another factor in the excessive cost is the high rate of wages. Here again, the policy of embargoes is the culprit, for the rise in wages is, in part at any rate, the natural consequence of the high cost of living, which in its turn follows from the prohibition to import numerous articles of necessary and daily consumption in every household. Let the Government restore freedom of trade by the abolition of those restrictions, and the cost of house building will come down with a run.—Yours, etc.,

A. GORDON C. HARVEY (President).
GILBERT BEARD (Hon. Secretary).
Free Trade Union, 5, Cross Street, Manchester.

August 19, 1919.

A collection of paintings and drawings by the late Anderson Hague was opened in the Manchester Art Gallery last Thursday, and will remain open until September 28.

Messrs. J. F. C. Carnell, L. F. Eagleton, and the borough surveyor, A. J. Smith, have been appointed joint architects and surveyors for the north and south districts of King's Lynn. It is proposed to acquire the Chase Estate site, and that behind St. Nicholas' Terrace, Gaywood Road.

In one of the very first housing schemes to get ahead, that of Messrs. Dorman Long and Co.'s for their employees at Dormanstown, Redcar, the construction adopted is an entirely novel one and creating considerable interest. Fixed to a steel frame work "Hy-Rib" is used as a basis for concrete walls, floors, etc., and very rapid erection is the result.

It is proposed to lay out a garden city at Barlborough. Mr. J. L. W. Butler Bowdon, J.P., has offered 48 acres of land on the Chesterfield Road, and from six to eight houses will be built to the acre. The houses will be built of concrete, and will consist of five rooms, with baths. Provision will be made for an institute, recreation ground, bowling green, etc.

COMPETITIONS.

EDINBURGH HOUSING SCHEMES.—The Housing and Town Planning Committee of Edinburgh Town Council adjudicated last Wednesday upon the competitive plans submitted by architects in the Edinburgh and Midlothian district for the groups of houses about to be erected at Wardie, Saughton, Craigleith, and Willowbrae. Sir John Burnett, the assessor, who was associated with the committee in their deliberations, submitted his report on the plans. The committee agreed upon their awards and appointed the architects who are to be entrusted with the work in the different areas. It was, however, decided not to publish the names until the successful competitors have been communicated with and their acceptances received. It is the committee's intention to proceed at once with the four housing schemes, and the plans adopted will be laid before the Local Government Board for their approval. The number of houses to be erected (including those at Gorgie, where building operations are already in progress) is 3,500. The main defects which the Local Government Board for Scotland see in the plans prepared by the successful competitors in the competition are set forth in an official memorandum. The details which are chiefly capable of improvement are stated to be—the sitting space round the fire being spoiled by the presence of doorways, the proximity of the larder to sources of heat, excessive space used in lobbies, and lack of adequate larder and storage accommodation.

LABOUR SAVING IN THE HOME.—The *Daily Mail* offers £400 in prizes for designs for a labour-saving house, which will be one of the features of the forthcoming Ideal Home Exhibition at Olympia on February 4 to 25, 1920. The house will be built at Olympia either complete or as individual rooms, as may be most convenient. Architects are invited to submit designs for houses designed primarily for labour saving. Full particulars will be furnished on application to the Secretary, Ideal Labour-Saving Home Competition, 130 Fleet Street, London, E.C.4, on or before August 30. We suggest that some of our friends might try their skill with the American one-room revolving house on which we comment on another page!

STATUES, MEMORIALS, etc.

PRENTON'S WAR MEMORIAL.—The residents of Prenton resolved to erect a war memorial in honour of local men who have served in the forces. The design for the memorial and the lay-out of the land, with paths, has been prepared by Messrs. Briggs and Thornely, F.R.I.B.A., Royal Liver Building, Liverpool. The plan is a small village green, intersected only by rustic flagged paths, forming approaches to the memorial from the adjoining roads at four points. The memorial will stand on a circular flagged plateau, 30 feet in diameter, and will occupy a central position. The design takes the form of a village cross, and is Elizabethan in character. Upon a base of stone steps rises an octagonal shaft 7 feet in diameter, upon which will be carved the names of those who served in the war. The shaft is surmounted by an enriched parapet, with lions on each corner, holding shields decorated with the arms of various regiments. Behind these rises a small octagonal shaft, having carved panels on each of the eight sides. The whole monument is surmounted by a cross, rising to a height of 30 feet from the ground. The cost of the memorial and of adapting the site is estimated at about £1,500.

SHROPSHIRE WAR MEMORIAL.—The Lord Lieutenant of Shropshire, Lord Powis, is endeavouring to raise £60,000 to £70,000 to provide a war memorial for the county. The scheme includes a new county hospital, and for a memorial in Shrewsbury the committee have accepted the design of Mr. George Hubbard, F.R.I.B.A., for a dome supported by coupled columns enclosing the figure of a private of the King's Shropshire Light Infantry in the act of throwing a bomb.

WAR MEMORIAL DISPUTE AT EALING.—There is some dissension in the parish of St. Matthew's, Ealing Common, over the form its war memorial shall take. The Vicar, the Rev. J. Sadler Phillips, proposes appealing for funds to carry out a scheme according to which the inside walls of the church will be painted "a

warm shade of white," and designs have been shown by him in which garlands of flowers and medallion portraits would have a place. The opponents of the scheme threaten a memorial to the Bishop of London, complain that the proposal is unsuited to a memorial to the fallen, and object to the scheme. The vicar, it is said, contemplates taking a plebiscite of the congregation on the subject some Sunday morning. The architect of the church was Mr. W. A. Pite, F.R.I.B.A.

OBITUARY.

The death is announced of Sir William Henry St. John Hope, last Monday week, at his home, "Galewood," Great Shalford, near Cambridge. Born in 1854, at Derby, he was educated at the grammar school of that town and at Peterhouse College, Cambridge, and became a master at Rochester Grammar School, resigning that position in 1885 to become Assistant Secretary of the Society of Antiquaries, where he remained for twenty-five years, and then retired on a pension. His published works were many, the last being his "Windsor Castle: an Architectural History," which took him twelve years to complete. During his connection with the Society of Antiquaries he superintended operations which resulted in important discoveries at Castlecre Priory, Furness Abbey, Dale Abbey, Repton Priory, Ludlow Castle, St. Augustine's Abbey, Canterbury, Old Sarum, Silchester, and in other parts of the country, the results often being recorded in *Archæologia*. Sir William Hope was Director of the Royal Archaeological Institute, Hon. D.C.L. of Durham, and a Knight of Grace of the Order of St. John of Jerusalem in England. He married in 1885 Myrrha Fullerton, who died in 1903, daughter of the late Major-General Fullerton, and in 1910 Mary, daughter of the late John Robert Jefferies, of Ipswich.

The death is announced of Professor Leonard William King, the Assyriologist, which took place in London last Wednesday after a long illness. He was Assistant Keeper of Egyptian and Assyrian Antiquities at the British Museum, and Professor of Assyrian and Babylonian Archaeology at London University. Dr. King, who was born in London in 1869, was educated at Rugby and at King's College, Cambridge. For the Museum authorities he did much excavation work at Konyumjik, Nineveh, in 1903-4, and he also collected rock inscriptions in Assyria, Persia, and Kurdistan during the period 1901-4. He was lecturer in Assyrian at King's College, London, from 1910 to 1915, and since the latter year had been Professor of Assyrian and Babylonian Archaeology there. The funeral service was held at St. Mary's, Bryanston Square, at eleven o'clock on Monday morning last, and the interment took place at Abney Park Cemetery at noon.

PROFESSIONAL AND TRADE SOCIETIES.

THE LONDON ASSOCIATION OF MASTER DECORATORS.—At an extraordinary meeting of the above Association held at 34, Russell Square, W.C., on Friday 22nd of August, Mr. W. Stewart-Greene presiding, it was unanimously agreed to affiliate with the National Federation. This will greatly strengthen the London Association and will probably give it representation on the Building Trades Parliament. Decorators who desire to join should communicate with the Organising Secretary, Mr. A. Seymour Jennings, F.I.B.D., 365, Bank Chambers, High Holborn, W.C.1.

From a large number of applicants the Housing and Town Improvement Committee of Glasgow Corporation have agreed to recommend that Mr. Peter Eyle, sanitary inspector in Glasgow, be appointed to the new post of director of housing.

The point in dispute between two youths was whether a certain factory was under Government control during the war period. "Course it was," triumphantly exclaimed Number One. "Don't you remember how they used to be always buildin' up that wall an' then knocking it down again?" "Right y'are," replied Number Two, now fully convinced.

Our Office Table.

The Vigo chimney, at Northampton, for nearly fifty years the most prominent county landmark, 250 feet above the surrounding landscape, has disappeared in a crash of falling bricks and a cloud of dust. It took two years to build and about two seconds to demolish. Three men were killed during its construction, but its destruction was happily attended by no unforeseen incident. The chimney was dated 1871, and is said to have contained two million bricks and to have weighed about 2,000 tons. The work of felling was entrusted to Mr. Joe Ingram, a son of the well-known "Parachute Joe," who occupied two days in preparing the base of the chimney before "blowing" it with two pounds of gelignite. For a moment after the shot was fired nothing happened. Then the chimney swayed slightly and suddenly it fell, not sideways, as had been expected, but straight down as if the earth had opened up to receive it. It simply collapsed on its base, "sat down," as someone said, and all was over. The bricks, which lie in a huge pile, are good, and said to be worth at least £1,000, and there are sufficient to build a large number of cottages.

What was described as a "special congress" on housing, held at Glasgow last Saturday night, proved a fiasco. The congress was convened by the Parliamentary Committee of the Scottish Trades Union, and in a resolution submitted Scottish trade unionists were invited to take a ballot to stop work on September 30 to force the Government to deal immediately with the housing problem. By 42 votes to 14, the matter was remitted back, with an instruction that it be raised at the coming British Trades Unions Congress.

At the last meeting of the Birmingham City Council it was resolved, after a long discussion as to the best means by which houses might be erected, to try the experiment of building by "direct labour," as well as through contracts. Application was thereupon made to the Ministry of Health for authority to build by direct labour, and permission has now been given to the Housing and Town-planning Committee to adopt this procedure "as an experiment." Building of a large block of houses by direct labour will be commenced as soon as the plans, still before the Ministry, have been approved.

Messrs. Burrell and Lethern, of St. Martin's House, 19, Ludgate Hill, E.C.4, send us a sample of "Glassnet," a substitute for glass, for which amongst the advantages claimed are the following:—It is cheaper than glass; can be cut with ordinary shears to any desired shape; is more durable than glass, as it is unbreakable; is easily fixed by any amateur; will withstand any shock and is ideal for indoor partitions, etc.; in cases of fire there is no danger from falling glass; will not rust and will withstand any atmospheric conditions, hothouse, stables, etc.; can be supplied in any colour; is manufactured in six grades, from light to heavy, thus making it suitable for any purposes. The material seems eminently suitable for factory roof illumination, skylights, etc., as it breaks the sun's rays and gives the maximum of light; no putty is required for fixing, and being pliable it can be bent to any desired shape. "Glassnet" is certainly an improvement on previous substitutes for glass, and should find many users.

Sir Thomas Fowell Victor Buxton, Waltham Abbey, a director of the Artisans' Labourers' and General Dwellings Co., has left £515,349.

The repeal of the Daylight Saving Act was accomplished last Wednesday, when the United States Senate supported the House of Representatives by passing the repeal measure, in disregard of the President's veto, by 57 votes to 19.

ALL ADVERTISEMENTS for the Current Issue of the "BUILDING NEWS" should reach us by 3 p.m. on THURSDAY :: ::

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TENDERS.

*.*Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

ADWICK-LE-STREET.—For houses, for the urban district council:
Type No. 1, 12 houses, T. H. Wilburn, Doncaster; type No. 2, 20 houses, Wilburn, Doncaster, and Jenkinson, Bentley, 10 houses each.

ENFIELD.—For reinstatement of Wesleyan Church after fire, for the trustees, Messrs. Boreham and Gladding, 49, Finsbury Pavement, E.C., architects:—
Dove Bros. £10,905 0 0
Groves and Son 10,981 0 0
Barker, George 10,823 0 0
Brand, Pettit and Co. 10,742 0 0
Parker, G., and Sons 10,573 0 0
Fairhead, A., and Son* 10,347 0 0
*Accepted.

GOSPORT.—For completion of school, etc., for the education committee. Accepted tenders:—
Hunt, J., for completion of Grove Road School buildings, £2,022; Bradshaw and Sons, for paving, £350 10s. 6d.

HEREFORD.—For a milk and cheese factory at Hereford, for the Wellington and District (Hereford) Co-operative Dairy Society, Ltd., Messrs. Bettington and Son, Palace Chambers, Hereford, architects:—
Cooke, C. £8,522 10 0
Wilks and Son 8,400 0 0
Peake, W. H. 8,326 0 0
Powell, W., and Sons 8,225 0 0
Bowers, W., and Co.* 8,100 0 0
All of Hereford. *Accepted.

INVERKEITHING.—For the construction of a concrete water storage reservoir and other works, for Messrs. Caldwell and Co., Ltd., papermakers, Messrs. Bruce and Proudfoot, Tolbooth Street, Kirkcaldy, engineers:—
Miller, J., and Co., Inverkeithing (accepted).

IPSWICH.—For houses on the Hadleigh Road site, for the town council:—
Contract No. 1.—Ten Four-roomed Houses.
Trudgett, J. W. £7,950 0 0
Sadler, A., and Son 7,220 0 0
Kenney, G. A., and Son* 6,478 0 0
Contract No. 2.—Fifteen Six-roomed Houses.
Trudgett, J. W. £13,430 0 0
Kenney, G. A., and Son* 11,785 0 0
Contract No. 3.—Sixteen Six-roomed Houses.
Turner, P. J. £16,783 0 0
Kenney, G. A., and Son* 12,688 0 0
*Recommended for acceptance.

KINFAIR MILL BRIDGE.—For improvements to Kinver Mill Bridge, for the Staffordshire County Council:—
Goodwin, F., Hanley £3,195 0 0
Accepted.

LOXBOY.—For work, for the London County Council:
Blackwall and Rotherhithe Tunnels.—Repairs to Pavements.
Mowlem, J., and Co., Ltd., Millbank £2,918 0 0
Anderson, G. J., 26, Lower North Street, Poplar 2,856 8 0
Wheeler, W. H., and Co., Ltd., 14, New Kent Road, S.E.1* 2,411 4 6
*Accepted.

REPAVEMENT OF PORTIONS OF CARRIAGEWAY OF WESTMINSTER AND VAUXHALL BRIDGES.
Highways Construction, Ltd., 16, Finsbury Circus, E.C.2 £4,352 15 0
Limmer & Trinidad Lake Asphalt Co., Ltd., 82, Victoria Street, Westminster, S.W.1* 4,303 6 3
*Accepted.

LONDON.—For factory premises, Miles Street, Vauxhall, for Messrs. A. J. Seward and Co., Ltd., Messrs. Boreham and Gladding, 49, Finsbury Pavement, E.C., architects. Quantities by Messrs. Harris and Sheppard:—
King, W., and Son £9,824 0 0
Holliday and Greenwood 9,667 0 0
Dorey and Son 9,600 0 0
Fairhead, A., and Son 9,528 0 0
Parker, G., and Son* 9,167 0 0
*Accepted.

OAKHAM.—For repairs and improvements to Dudington Bridge, for the Rutland and Northamptonshire County Councils:—
Johnson and Langley, Leicester, £2,914 6 9
Accepted.

PONTEFRAC.—For erection of 122 houses (No. 1 scheme), for the corporation. Accepted tenders:—
Hirst, H., Birkenhead, brickwork, £39,000; Beighton and Son, Castleford, plaster work, £4,364; Jackson and Oates, Goole, joinery, £22,087; Pearson and Son, Pontefract, plumbing, £8,494; Stewart Bros., Pontefract, slaters, £6,800; and Wheatley and Son, Pontefract, painting, £2,939.

ROTHERHAM.—For alteration of Ferham House, for the corporation:—
Saul, G., and Son, Ltd. £3,453 0 0
Accepted.

RUGBY.—For 19 pairs of houses on the Croup Hill Estate, New Bilton, for the Rugby Rural District Council:—
Hollowell, F., Rugby, accepted at an average cost of about £1,525 per pair.

TRURO.—For alteration to premises at Truro, for the United Dairies Co., Ltd., F. E. Stratton, Bayswater, architect:—
Bennett, W. E. £4,456 0 0
Accepted.

LIST OF TENDERS OPEN.

BUILDINGS.

Aug. 13.—29.—Erection of eight cottages in the parish of Mountnessing.—For the Billericay Rural District Council.—C. E. Lewis, clerk, New Road, Brentwood.

Aug. 21 Sept. 11.—Additions to the High School for Girls, Boston Avenue, Southend-on-Sea.—For the Education Committee.—J. W. Barrow, secretary, Education Offices, 11, Nelson Street, Southend-on-Sea. Drawings may be seen at the offices of the architect, Henry T. Hare, F.R.I.B.A., 2, Gray's Inn Square, W.C.

Sept. 1.—Alterations and additions at the sexton's house, Gwacolyrthdir Cemetery, Bargoed.—For the Gellygaer Urban District Council.—Tenders to F. T. James, clerk, Council Offices, Bargoed, via Cardiff.

Sept. 1.—Alterations and additions to boiler house at the infirmary, Mayday Road, Croydon.—For the guardians.—Tenders to H. List, clerk, Union Offices, Mayday Road, Thornton Heath.

Sept. 1.—For 30 houses, in one contract or more, in Bath Road, Nuncaton.—For the town council.—F. C. Cook, A.M.I.C.E., borough engineer and surveyor, Municipal Offices, Nuncaton.

Sept. 1.—For alteration to the entrance gates, etc., to the Bagthorpe Institution and Infirmary, Ducknell Road, Nottingham.—For the guardians.—E. R. Sutton, F.R.I.B.A., Albion Chambers, King Street, Nottingham, architect. Tenders to J. A. Battersby, clerk, Poor Law Offices, Shakespeare Street, Nottingham.

Sept. 2.—For working-class dwellings on the George Lane site, Bredbury.—For the Bredbury and Romiley Urban District Council.—Messrs. Halliday, Paterson, and Agate, 14, John Dalton Street, Manchester, architects. Tenders to the Chairman, Council Offices, Bredbury.

Sept. 5.—The Commissioners of His Majesty's Works, etc., invite tenders before 11 a.m. on September 5, for the erection of a new repeater station at North Walsham, Norfolk. Tenders to be addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1.

Sept. 8.—Tenders are invited by the Commissioners of His Majesty's Works, to be addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, S.W.1, for the erection of a new post office at Clacton-on-Sea.

Sept. 9.—The Commissioners of His Majesty's Works, etc., invite tenders for the erection of a new post office at Crook, Durham. Tenders to be addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1.

Sept. 18.—For 14 houses at Town End, Chapel-en-le-Frith.—For the Chapel-en-le-Frith Rural District Council.—C. Flint, 5, The Quadrant, Buxton, architect. Tenders to the Clerk's Office, High Street, Chapel-en-le-Frith.



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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.2

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<i>OUR ILLUSTRATIONS.</i>	
"The Whiteley Homes" Church, Burhill, Park, Surrey. Interior and exterior views. Mr. Walter Tapper, F.R.I.B.A., Architect.	
View of Lincoln Cathedral from the Brayford. A pen drawing by Lieut. Harold Coop, from the Royal Academy.	

Currente Calamo.

Day by day it is more and more evident that Mr. Lloyd George's letter was a mere piece of window-dressing. The smile that broadened the face of a Government official as he quoted the old saw to us, "By studying economy we live like a lord," was a fair index to the outcome. Till once again expenditure is controlled by a responsible Cabinet controlled by a fairly-elected Parliament, and not by "Ministers" of the sort from whom Jeroboam the son of Nebat chose his priests, looseness of control, with its enormous evils and irregularities, will increase and flourish. To begin with, the order for the cessation of naval construction is the merest stage business. There has been a slowing down in the dockyards for some time, and even the closing of Gretna was expected. What about the expenditure of five hundred millions yearly for armaments when peace has come, and is little likely to be disturbed? What about the three hundred millions for subsidies on roads, railways, and shipping, and the rest that are being foreshadowed daily—all sops to "key industries" at the cost of the taxpayer? Take again the scores of still happy refugees of flappers and dead-heads in almost every nook and corner, whence issue the complacent squadrons of girls of all ages, and men whose gait and behaviour testify to their appreciation of the cushy jobs that have been their sole service in the Army! With all such our experience has been that work is contrived simply to make work, and multiply jobs for the favoured protégés of placemen. We trust that Widnes last Saturday gave Mr. Lloyd George his fitting answer to his latest bit of camouflage—not because of any particular preference for either candidate, but because it is high time that at every election it should be made clear to him that the country—irrespective of party politics—is sick to death of the blighting bureaucracy of which he is the shadow of a great rock of shelter for all blighters.

A whining appeal has been made to the Royal Institute of British Architects and to other similar institutions in European countries, protesting against the "unpracticable" and "inacceptable" terms of peace imposed on Austria, by the Society of Engineers and Architects of Vienna, be-

cause, if not modified, "German-Austria would be obliged to sink down from her high degree of culture, high even in comparison to many of its neighbours, and to perish," and protesting that "the necessity of maintaining the culture in our countries makes it a duty to the Western Powers, after having heard our deputies, to examine profoundly the terms of peace and to soften them to the largest possible extent." The reply, signed by the President of the R.I.B.A., Mr. John W. Simpson, says:—"While sensible of the just severity in the conditions of the Treaty of Peace to which the resolution refers, the Royal Institute of British Architects would attach greater weight to their appeal had your society taken any steps during the war to prevent, or to publicly protest against, the infamous destruction by their country's Allies of those works of architecture whose immense value to the world your society was very competent to appreciate. Nevertheless, the Royal Institute ventures to hope that the terms imposed upon your country may prove less disastrous than the resolution suggests, and that after the Treaty has been signed they may be able to resume relations with your society in mutual effort to advance the art of architecture." We disagree entirely with the last paragraph of the R.I.B.A. reply. We are sick of reading the "hopes" of some of our easily-forgiving friends of the two Powers that wantonly wrought the last five years' misery. German-Austria was responsible for the war, either as consenting catspaw or eager bandit. Englishmen, we trust, have not forgotten the history of German-Austria during the last sixty years, or Gladstone's wholesome warning: "Hands off, Austria." At the best the probable destiny of German Austria will be that of a province of the German Empire, Republic, Soviet, or whatever bond of union and "culture" proves strong enough to unite the thieves of Central Europe till they quarrel, and meanwhile honest men of all countries, we hope, will hold their own, and shun any sort of "relations" or "mutual effort" whatever with the brigands, who are little likely to turn honest for generations to come.

Employers and employees alike should read very carefully the explanatory memorandum of the new Insurance Act which became law on August 15, and which was probably never understood by

those who passed it on the final rush before the adjournment of the House of Commons. It is unpleasantly obvious that employers, although their hands may be free from both liability and benefits, will be under obligation to pay. Many staffs, for instance, must be comprised of employees whose earnings are between the two limits, and the extension means that in those offices the insurance scheme, which had virtually become a dead letter by reason of the higher standard of wages, is to be re-applied. It is pretty evident that the imposition of the employer's obligation is that it is intended to re-establish the financial stability of the insurance system, which had obviously been found inadequate. Whether an employee within the £160-£250 limits rejoins the scheme is at his own option entirely, and the course he follows will be dependent, very probably, on whether he considers his liability to sickness sufficient to make his contributions a desirable investment. We advise all, employers and employees, to read carefully a criticism of the Act by Professor Russell, of the University of Edinburgh, which we reproduced from the *Scotsman* in our other paper, the *English Mechanic*, of August 15, and then ask themselves whether the Insurance Act has been of the slightest real value, and whether the big balance to the bad of eleven millions which the Exchequer has had to make up yearly has not been absolutely thrown away as far as any benefit to the health of the people is concerned.

In *La Nature* of July 12 last, M. Bosanquet usefully discusses the various types of dwelling likely to be constructed to replace those destroyed by the Huns in France and Belgium during the war. Most of his recommendations with regard to materials and methods are probably familiar to the majority of readers, but his remarks about compressed clay *Pisé* might be quite as usefully followed in some localities here as in France or Belgium. *Pisé* is a slightly damp clayey earth which is stamped in panels, like concrete. It is largely used for outbuildings. M. Laval, of Lyons, suggested its use for dwelling-houses before the war; it was generally used in the form of solid blocks compressed in a moulding press and then laid on lime mortar. This system was found to save labour, while the blocks

stronger and more homogeneous, and the surfaces and edges were very regular. The writer believes that this system will enable houses to be constructed at a reasonable cost, which will not require much upkeep, and are impervious to atmospheric influences. By replacing the water used in making the pisé by milk of lime, the consistency and strength of the pisé can be increased. Coignet suggests the following mixture for the pisé:—Crude argillaceous earth, 27 parts; sand and gravel, 64 parts; and watered lime, 9 parts. It is interesting to note in this connection that Mr. J. St. Loe Strachey, in a letter to the *Spectator*, says that the whole of the walls of a cottage containing living room, parlour, three bedrooms, scullery, bathroom, larder, pram and cycle space, coalhole, and lavatory have been completed at Newlands Corner, near Guildford, for £29, or less than one-tenth the cost of brickwork, in pisé de terre, the cubical contents considerably exceeding the standard laid down by the Board of Agriculture.

Mr. Frank T. Deverill, president of the Windsor and District Building Trades Masters' Association, writes to the *Daily Telegraph* that the labour department of the M.T. depot at Slough are now paying to carpenters wages very considerably in excess of the agreed local rates in the building trade, with the result that local builders are denuded of their men in that particular branch. The local rate, including the 12½ per cent. bonus, is 1s. 6d. per hour. The rate of the M.T. depot works out to just over 1s. 10d. per hour. Building work cannot be carried on without carpenters, and if the process continues to its logical conclusion, states Mr. Deverill, all building operations will be brought to a standstill, thereby throwing out of employment the employees in the other branches of the trade. That is already the case in other industries besides our own; and presently the hundreds of thousands of unemployed will perhaps want to know why, as during the war, a comparatively few favoured workers are to be paid extravagantly, to the injury of the great majority thus thrown out of work.

We congratulate our contemporary, the *Irish Builder and Engineer*, on the issue of its "Diamond Jubilee Number." Founded on January 1, 1859, as "The Dublin Builder," by Mr. Richard Lyons, F.R.I.A.I., under both titles and in the hands of its different proprietors, it has always worthily upheld the dignity of the art of which it has been the consistent representative, and maintained the honourably amiable relations with its contemporaries which are natural to Irishmen, but not so often met with this side the Channel at the hands of those responsible for some of the mushroom publications which have come and gone and are going. Among the able men who have edited the *Irish Builder*, Sir Thomas Drew, P.R.I.A.I., was one of the most distinguished, and its contributors have been invariably men of culture and sound information. Those whose contributions appear in the "Diamond" issue include:

Prof. A. E. Richardson, F.R.I.B.A.; Mr. H. Allberry, Hon. Secretary, Royal Institute of the Architects of Ireland; Captain Purcell; Dr. P. C. Cowan, M.I.C.E., Chief Engineering Inspector, L.G.B.; Captain Page L. Dickenson; Mr. Thomas Bodkin, B.A.; Mr. Thomas Tomlinson, M.A., B.A.I., T.C.D.; Professor Seymour, M.A.; Mr. George Marshall Harris, M.I.C.E.; manager of the Dublin United Tramways Company; Professor Pierce Purcell, M.A., M.E.; Mr. R. Thompson; and Mr. Harry Clarke, who has designed and drawn the fine heading which adorns the beginning of the number. May the best of good luck continue to bless our contemporary, and long before it or we issue our Double Diamond Jubilee issues may Ireland become as happy and peaceful as she is growing prosperous!

It is probable that the leading nations of the world will ere long follow the examples of our own Dominions and Commonwealths, and acquire or erect great structures in London where their products may be shown, and whence propaganda in support of their industries may be organised. Norway has led the way by acquiring, at a cost of £225,000, Victory House, Charing Cross, where Norwegian activity will be centralised. The Norwegian Legation will occupy one floor. The ground floor will have a travel bureau with an exhibition of Norwegian products and probably works of art. The Norwegian Chamber of Commerce will have another floor, and there will be a hall and committee rooms for the Norwegian clubs and societies in London. Norwegian artists will decorate the building inside and outside, and an effort will be made to give Norwegian character to its façade. All Norway is strongly concerned in the new departure, which we shall welcome as a real national compliment from the country which in the brotherhood of the sea suffered so much beside our own seamen in the war. The idea behind the scheme was well expressed the other night by the Norwegian Minister at a private dinner given to the Norwegian delegates who had come to London to settle the matter. "It is," he said, "the Norwegian flag in stone, always hoisted to the top, to show the people in the central metropolis of the world that on the other side of the North Sea there is a people whose heart beats in sympathy with what is noblest and most characteristic of the British race."

Six months ago we urged that the Government was obstinately blind to the perfectly available financial resources available for housing without taxing the public if only private enterprise were given its chance. There is to-day no less a sum than £36,000,000 awaiting investment in houses by the building societies of England. This side of the case for housing by private enterprise was put before both Houses while the Housing and Town Planning Act was being considered, but the Government were adamant. The result is seen everywhere to-day in the

appallingly slow pace at which housing schemes are being taken in hand. A well thought-out scheme from the building and the financial point of view was presented to the Local Government Board. It had the blessing and approval of the building societies and the hearty co-operation of housing experts, but the Government jibbed. The scheme submitted to the L.G.B. was one by which the State assistance would have been of such a nature that over a term of years the whole of the money advanced would have been returned without loss precisely in the same way as a house is purchased by means of an advance by a building society. Already the local bodies, wearied with continual rebuffs, are saying to the Ministry of Health, "Build the houses yourself," while the builder who in pre-war days supplied 95 per cent. of the houses, is "frozen out" by Mr. Lloyd George and the price of money. If the millions of the building societies had been made available by the Government adopting a less rigid attitude to private enterprise these much wanted houses would be in course of erection. The Ministry of Health had much better take second thought and tap this reservoir of waiting capital instead of wasting its time in sending fulminatory circulars out to the local authorities day after day and week after week, which fail to do anything but provoke natural indignation.

We heartily recommend all traders and advertisers, instead of issuing their ordinary Christmas almanac, to apply to John Bellham, Music Department, 306, Regent Street, W.1, for a sample copy of the valse entitled "Joy Bells of Peace," with a view to taking large quantities with their name and business address printed in the honour panel on the back page, or if they so preferred it, with the panel left blank in order that they could have an overprint of any Peace Christmas greetings they care to place therein. The back page could also be left entirely blank should the trader require a different style of publicity. We consider this idea has all the advertising merit of the customary almanac in that it carries the name and business address of the firm permanently into the home, and in addition it carries the credit of doing a grand act for the brave men who are worthy of our efforts. When these copies are distributed the Fund not only benefits financially, but by the permanent and prominent publicity bringing the good work of St. Dunstan's After-care Fund for the Blinded Soldiers and Sailors before the public at a most opportune moment, still leaving the donation slip, which in many cases would be filled in and returned. Mr. Ferdinand Krish, the composer of this valse, has recently had the honour of playing before H.M. Queen Alexandra at Marlborough House, who presented him with an enamelled diamond crown pin in recognition of his performance. Sale copies for the piano, price 2s. 1½d. each, post free, can be obtained from John Bellham, Music Department, at the above-mentioned address.

Elimination of columns within the theatre portion of a combined theatre and office building, and the combination of steel and concrete framing on account of the high price and limited supply of steel, are features in the twelve-story State-Lake Building in Chicago. This building is an unusual case of structural design adapted to meet difficult conditions imposed by architectural requirements. With columns prohibited inside the large area of the theatre floor, special truss and girder construction was introduced to support the upper floors over this area, and also to carry cantilever supports of the large balcony within the theatre. Girders in the office portion of the building provide for an unsymmetrical column lay-

On a site 180 x 168 ft., the theatre, including the stage, occupies a space 163 x 130 ft., leaving a wing on each of the two street fronts. In the sixth and upper floors the building is of L shape, with a light court above the theatre roof at the sixth-floor level. The width of this portion is 65 ft. and 50 ft. on the State Street and Lake Street sides respectively, and the wider wing extends over the theatre space. The general design is shown by the accompanying plan and sectional elevations, on which are indicated the locations of the special structural features described below in more detail.

Six steel trusses are employed. Two of 120 ft. span and one of 75 ft. span carry

story truss above it. Thus, while one end is framed against the face of the column, the other end is at the side of the column, so that the centre lines of the two trusses are coincident at one end and 23 in. apart at the other end. The reason for this is that the lot is not exactly rectangular, and the balcony truss is at right angles to the axis of the theatre, while the upper truss is parallel to the building line of State Street. This truss is seated on auxiliary columns forming integral parts of the main columns. Owing to the unsymmetrical arrangement noted, this auxiliary support is on the face of one column and on the side of the other column.

Another feature in this balcony truss is the fact that its top chord is concave, the



Steel is used for columns and framing of the first six floors, while concrete is employed in the six upper floors and roof. Concrete is the more economical material at present prices, but if used in the lower portion of the structure it would have necessitated columns of such large size as to be obstructive and undesirable. Furthermore, it would have been difficult to use concrete for some of the long spans required. By combining the two types of construction the advantage of steel is retained where this advantage is of importance. The total cost of the structural work was reduced about 10 per cent. by

The second 120 ft. truss is carried by the same columns, but at the lower elevation, and forms the fulcrum support for the concrete gallery cantilevers. While carried by the same columns, it is not in the same vertical plane with the two-

Spanning the stage front is a truss having a length of 75 ft. and a depth of 17 ft. This carries no very great load. From the lower chord is hung the

proscenium arch, which is of concrete. The top chord carries the framing of the fly gallery from which the scenery is handled. This consists of pairs of 12 in. channels resting on the wall girder and the truss, while between and parallel with these are 3 in. I-beams spaced 5½ in. on centres. The truss also carries a row of columns supporting the roof over the stage and that over the theatre.

CONCRETE CANTILEVER GIRDERS.

The cantilever girders carrying the gallery are of concrete instead of steel, for the reason that this construction was cheaper and obviated the necessity for complicated structural details where the cantilevers pass through the balcony truss. They are inclined to conform to the slope of the balcony floor, and have their upper ends at the fourth-floor level. The length of the girders varies from 26 ft. for the middle girders to 23 ft. for the side girders, with cantilever lengths

crete. The webs are of ½ in. plates 14 in. apart.

CARRIED WITHOUT SUPPORT OF INTER-MEDIATE COLUMNS.

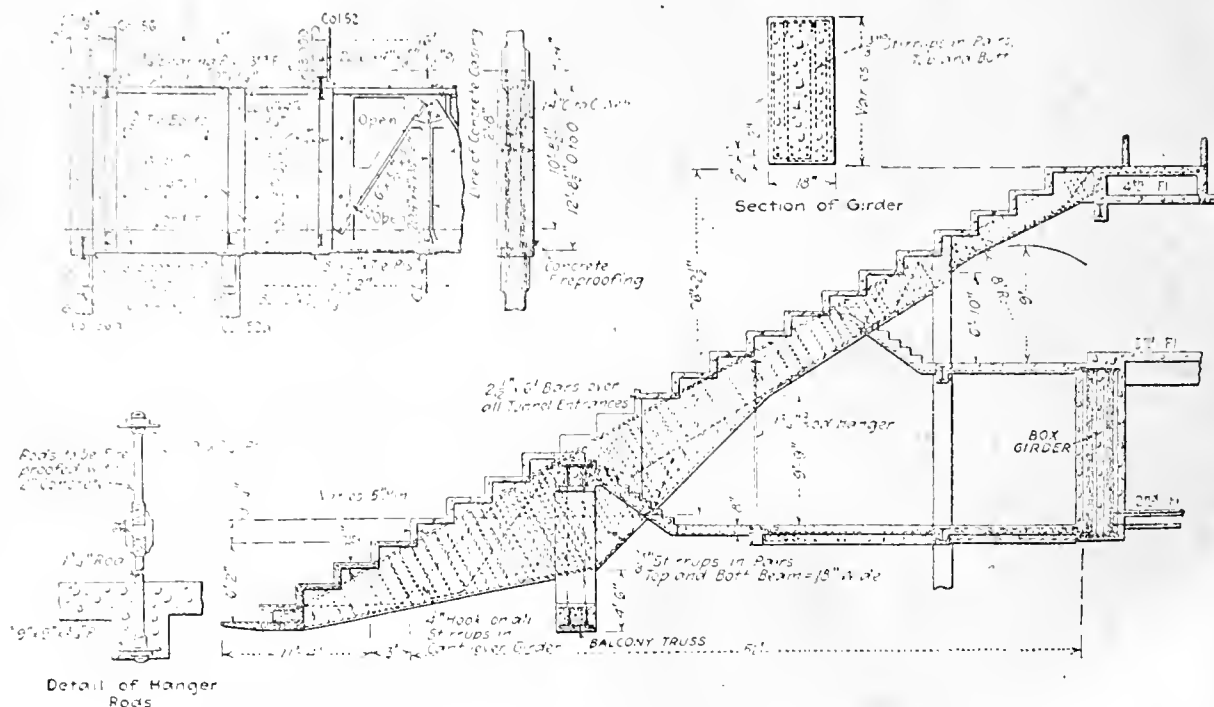
The 65 ft. width of the upper portion of the State Street side of the building extends over the area occupied by the theatre, and has to be carried above the balcony floor without the support of intermediate columns. At the sixth floor level, therefore, there are steel girders of 39 ft. span, each consisting of a pair of 6 ft. plate girders having their inner ends framed against interior columns of the building, while their outer ends rest on brackets on the posts of the main 120 ft. truss, which carries the rear wall of the wing. Upon each of these girders is seated an intermediate column which carries the framing of the upper floors. The girders are designed for a uniform load of 6,000 lb. per ft., and the loads which the intermediate columns transmit to them vary from 360,000 to 405,000 lb.

concrete floor of the slab-and-joist type. Steel joists and a flat slab are used for the stage, owing to the number of openings or traps required. The theatre floor has a concrete slab inclined to the proper slope and stepped to form benches for the seats. Floor loads were specified as 100 lb. per square foot for the main theatre floor, the stage and the balcony, with 50 lb. for the upper or office floors.

Steel columns terminate mainly about 3½ ft. below the seventh floor, which is the first concrete floor, but some extend to this latter level. They carry shoes for the bases of the superimposed concrete columns. Above the shoes the columns have short bolts through the web and flanges, in order to form a bond with the concrete columns built around them. In certain columns, also, the flanges are cut or notched for the same purpose.

CONCRETE COLUMNS.

Concrete columns are rectangular in section, from 23 to 28 in. square at the



Concrete cantilever girders and box-plate girder with open middle panel.

of 12 ft. and 10 ft. respectively. The fulcrum bearings are on seats in the 120 ft. balcony truss and its auxiliary diagonal trusses, as described above. These six cantilever girders are 18 in. wide, 2 ft. deep at the upper portion, and 9 ft. deep over the fulcrum supports. Between them is the concrete slab forming the floor of the gallery and serving as lateral bracing between the girders, and stepped to form benches for the seats. The entire balcony, including girders and slab, was poured in one continuous operation.

A 48 ft. box plate girder, 12 ft. 8½ in. deep, with an open middle panel, provides for changes in column arrangement. Thus it is supported by four columns forming a central space of 31 ft. 2 in. for the main entrance to the theatre floor and two side spaces of 10 ft. 10 in. Upon it are supported four other columns spaced 16 ft. on centres.

The open 16 ft. middle panel, in which truss members are used instead of web plates, was adopted in order to reduce weight of steel, as there are no shearing stresses in this portion, except for unsymmetrical loading. No web stiffeners are used between panel points, but the deep webs are connected by ¾ in. tie bolts and by filling the space between them with con-

The two columns which carry the superimposed balcony truss and wall truss of 120 ft. span are of special section. The north column where the two trusses are in the same plane has the added supporting area on the inner web or face of the main column. It is of I-section, with its web parallel to the main web and its flanges inside those of the latter. Through bolts 2 ft. apart connect the three webs. The south column, where the two trusses are not in the same plane, has this added area on the side. It is of box section similar to the main part of the column, but smaller, and long rivets pass through the cover plate and flange angles of both portions.

Box columns carry the 75 ft. proscenium truss and the two 48 ft. girders in the front and interior framing. Most of the other steel columns are 14 in. and 12 in. H-beams, some of which, with long, unbraced lengths, are reinforced by cover plates on the flanges. In the side portions flanking the stage, used for dressing rooms and other theatrical purposes, some of the taller columns are 24 in. I-beams.

I-BEAM FLOOR FRAMING.

Steel floor framing is mainly of I-beams, with girders at certain points carrying a

base, in the sixth floor, although two are 30 in. square. Some extend above the main roof to carry the attic floor and pent-house, but all are 20 in. square at the top. The reinforcement consists of vertical deformed rods and steel spirals, except that ties instead of spirals are used in some cases. The concrete is a 1:1:2 mix from the sixth to the ninth floor, above which it is 1:2:4. Four columns at one corner of the wing extend above the attic floor and support four girders with a 6 in. slab for a 30,000 gal. wood tank. Columns supporting the beams of the theatre floor are mainly 14 x 14 in., with 2 in. bevelled corners.

Typical concrete framing for the six upper floors consists of wall girders or lintels, with girders across the 50 ft. and 65 ft. widths of this L-shaped part of the building. No interior girders parallel with the walls are used, as the floor slabs are sufficient to carry the loads and serve as interior bracing. The floors are 6 in. thick, with girders 29 to 31 in. deep, including the slab. Wind bracing is provided by special reinforcement in the girders. At the seventh floor, where some of the steel columns extend above the concrete beams, the latter rest on shelf angles and are anchored horizontally by three

rows of anchor rods 10 ft. long, which extend through the columns.

Over the theatre area is a concrete slab roof at about the sixth floor level, carried by three 120 ft. trusses. Purlins of pairs of 6 in. channels extend across these, the outer ends of the purlins being carried by the 120 ft. wall truss and the 75 ft. proscenium truss. Between the bottom chords are framed 7 in. I-beams, from which the frame for the ornamental ceiling is suspended by hanger rods. This frame consists mainly of light angles. Electric lamps for decorative indirect lighting are arranged in recesses in the ceiling, and the frame is laid out with gangways to permit men to walk over the ceiling and replace lamps from the inside. Flat-slab concrete roofs cover the office and stage portions of the building.

FOUNDATIONS.

Concrete pier foundations are employed, most of the piers being carried down to hardpan at about 87 ft. below street grade. These have the base belled out to twice the diameter of the shaft. Five piers are carried down to solid rock at 123 ft. below street grade, and these are not belled out. Two of them are $7\frac{1}{2}$ ft. piers, made of 1:1:2 concrete, for the box columns which carry the two 120 ft. trusses of the balcony and rear wall. Each of these columns has a load of about 2,000 tons on the pier.

Other piers carried to rock are for a portion of the rear wall in which the columns are carried by cantilever girders in order to keep the piers within the property line. These girders are pairs of 30 in. I-beams, resting on a grillage of 12 in. I-beams in the head of the pier. Concrete cantilever girders are used to support other columns in the rear wall, and some of these carry intermediate columns. Concrete footings in firm clay support the short columns of the theatre floor.

Large members could not be handled within the building, owing to the numerous columns and to the difficulty of unloading in the street. Therefore the trusses were built up on the site, and large connection plates on the columns were placed in the same way. The 75 ft. truss was assembled at the basement level about 5 ft. forward of its position. It was then raised by derricks until the projecting ends of the bottom chords and end posts came between the connection plates on the columns, and held by bolts and drifts while the rivets were driven.

The balcony truss was built up in three sections, the deep end portion in the basement and the shallow central portion on falsework at the final elevation. The derricks then raised the end portions, and they were bolted temporarily to the columns and the central portion while the connections were riveted. All steel work is cased in concrete fireproofing.

Mr. T. W. Wishlade, A.M.I.C.E., has been appointed county surveyor of Radnorshire at a commencing salary of £400 per annum.

Mr. David Edwards, A.M.I.C.E., borough engineer and surveyor of Taunton, has been awarded the first prize for a housing scheme in a competition issued by the Salisbury Corporation.

A public utility society has been formed under the title of the Horsforth Co-Partnership Tenants, Limited, with the object of forming a garden village, and a suitable site of about twenty-five acres has been secured between West End Lane and Hall Lane.

Mr. Aubrey Robinson, of Hamilton Terrace, St. John's Wood, a member of the firm of Robinson, Fisher, and Harding, auctioneers, King Street, St. James's, who died on June 29, has left a fortune of the value of £280,565. By his will he bequeathed £20,000 for such charitable institutions as the executors may select.

Our Illustrations.

"THE WHITELEY HOMES" CHURCH, BURHILL PARK, SURREY.

Sir Aston Webb's blocks of houses and his Whiteley Hall at Burhill Park, Surrey, were illustrated in our pages this year on January 8 and 15. The other architects' designs which have been carried out by the trustees for the Whiteley Homes will be found published in THE BUILDING NEWS on the following dates:—Mr. Ernest Newton, R.A., May 31, 1916; Sir Reginald Blomfield, R.A., June 21, 1916; Sir Ernest George and Mr. J. B. Yeates, F.F.R.I.B.A., July 25, 1916; Mr. Walter Cave, November 29, 1916, on which same date Mr. Mervyn E. Macartney's designs also were illustrated; also a block plan. To-day we are able to reproduce the two perspective drawings of the Church at Burhill Park from the originals, by Mr. Hepworth, both water-colours being exhibited this summer at the Royal Academy. Mr. Walter Tapper, F.R.I.B.A., is the architect. Messrs. Henry Martin, Ltd., of Northampton, were the general contractors; Messrs. Bridgeman and Sons, of Lichfield, did the oak fittings. The materials are stone and plaster, both externally and internally. The roofs are covered with tiles.

VIEW OF THE CATHEDRAL FROM THE BRAYFORD, LINCOLN.

Lieut. Harold Coop has sent us the following note in regard to his freely drawn pen view of the Brayford, at Lincoln, which he kindly lent us from "The Black and White Gallery" at this year's Royal Academy exhibition. He says the picture is: "A composition expressive of the atmosphere of the city, the dominating note being the cathedral, serene and grand, which frowns and smiles in turn upon the more modern hives of industry which have grown around it. What was once a mere pool has now become an important waterway. De Wint made this same composition historic."

ADHESION OF CONCRETE TO IRON IN REINFORCED-CONCRETE STRUCTURES.

The cause of the adhesion of iron to concrete in reinforced-concrete structures seems to be unknown. Some experimenters attribute it to a sort of binding or sticking of the iron to the cement; but the writer states that this is not so, and shows that the solidarity between the two media is due to the friction of the iron on the concrete.

In order to calculate the frictional adhesion A and determine whether the values found by calculation correspond to the values given by experiment, the author considers an iron bar of radius r_1 , imprisoned in a coaxial cylindrical block of radius r_2 .

Due to the contraction of the concrete on setting, the radius r_1 tends to shorten, but, owing to its rigidity, the iron prevents this reduction taking place throughout the mass, and sets up at the surface of separation iron-concrete, as well as at the surface of every coaxial cylinder of radius r , a normal pressure, p , and a tangential stress, t .

Let p' , t , and p , t' be the values of p and t in the concrete and in the iron, at the surface of separation, iron-concrete ($r \approx r_1$); E , E' , σ , σ' the coefficients of elasticity and the Poisson ratios for the concrete and iron; and c the coefficient of contraction (shrinkage) of the concrete whilst setting.

Under the action of setting of the stress, t , and the pressure, p , the cylindrical layer of radius, r , and infinitely small thickness shortens, and the radius decreases:

In the concrete, by:

$$\Delta r = \tau - \frac{t + \sigma p}{E} r;$$

In the iron, by:

$$\Delta' r = - \frac{t' + \sigma' p'}{E'} r;$$

At the surface of separation iron-concrete, by:

$$\Delta r_1 = \Delta' r_1.$$

Hence

$$c = \frac{t_1 + \sigma p_1}{E} = \frac{t'_1 + \sigma' p'_1}{E'} \quad (1)$$

The values of t_1 , and t'_1 , in terms of p_1 , are found by a calculation similar to the calculation of the strength of thick, cylindrical envelopes subjected to internal or external pressure. We thus have:

$$t_1 = p_1 \frac{r_2^2 + r_1^2}{r_2^2 - r_1^2}, \quad t'_1 = - p_1.$$

Substituting these values in (1), we have:

$$p_1 = \frac{cE}{\left(\frac{r_2}{r_1}\right)^2 + 1} \quad \sigma + \frac{1 - \sigma^1}{\left(\frac{r_2}{r_1}\right)^2 - 1} + \frac{1 - \sigma^1}{F^1} F$$

If f is the coefficient of friction of the iron on the concrete, we get:

$$A = fp_1$$

The coefficient, c , E , σ are not well known; they vary according to the quality of the concrete. The coefficient, f , depends on the state of the surfaces in contact; in the present instance, owing to the high values of p , the tearing away of the iron bar will generally cause the iron to grip the concrete.

By taking:

$$p_1 = 0.7, \quad c = 0.003, \quad E = 300,000, \quad F^1 = 2,000,000 \\ \sigma = 0.4, \quad \sigma^1 = 0.3$$

the following table is obtained:

$\frac{r_2}{r_1}$	1.2	1.5	2	4	8	∞
A (Kg/cm ²)	10	20	29	39	41	42

In demobilised reinforced-concrete structures, it was found (and this led the author to draw up the above conclusions) that the concrete ceases to adhere to the iron when the latter is not surrounded all over by the concrete. The iron bars are quite clean, not a particle of concrete adhering. While, of course, it is certain that iron can be stuck to cement, the effect in reinforcements is not due merely to this sticking. The above figures are close to those given in practice, and experience shows that the adhesion, like the contraction of the concrete, increases with time.

The theory propounded shows the great importance to be attributed to the knowledge and value of the coefficient of contraction c of concrete.—(Vasilescu Karpen, *Comptes rendus de l'Académie des Sciences*, July 7, 1919.)

Sir Aston Webb has consented to inaugurate the Autumn Exhibition at the Walker Art Gallery on Saturday, September 20, and the exhibition is to remain open until December 6.

While tar-spraying the roads at Willesden, Charles Harry Harris, 45, of Kilburn, employed by the Willesden Council, got some of the tar on his face and neck, and died from pustular dermatitis. At the inquest last week a verdict of "Accidental death" was returned, and the jury suggested that the council should supply gloves to men engaged in tar-spraying.

A meeting of the Housing Sub-committee of the Housing and Town Planning Committee of the Birmingham City Council was held at the Council House last week to consider the 130 applications that have been received for the post of director of housing. The sub-committee made a selection of names with a view to interviewing the most likely candidates to enable them to recommend an appointment to the Housing and Town Planning Committee.

Mr. Frank Arnold Wood, of Manchester Street, Russell Square, W.C., who died on October 12, and whose will is proved by Mrs. Minnie Dibben, of West Street, Erith, has left £5,373, and directed "that his body should be cremated and the ashes conveyed to Southend-on-Sea, where I have spent most enjoyable days, and thrown from the end of the pier by George Childs, or some other person to be appointed, and £5 is to be paid to the person who carried out these wishes." All the property the testator left to Mrs. Dibben.

THE DRI-CRETE BUILDING BLOCKS.

The porosity of concrete blocks, which resulted in damp walls, has often been an objection to their use. After spending two years in time and considerable expense in making and testing experimental blocks, it was found that a very thin coating of waterproof cement, and sand made solid blocks absolutely waterproof when applied to the new type block. The problem was to devise a machine which would enable an unskilled labourer to place a thin and perfectly level face to a porous concrete block with precision and speed. Blocks made upon the "Dri-crete" machine have the advantages of being waterproofed, free from unsightly hair-cracks, more stone-like in appearance, and with considerably harder faces.

The thin waterproofed facing is composed of sand, cement, and a waterproofing powder. The main portion of the block is composed of any of the usual aggregates, such as sand,

With the "Dri-crete" method of making blocks, the ordinary concrete is made considerably wetter, and the face being uppermost and finished off with the patent "striker," it is possible to use a far wetter facing mixture than with any other method of making blocks. It is well known that wet concrete is stronger than concrete made with a minimum of water (semi-dry), and it follows that a block made upon the "Dri-crete" machine has greater strength when gauged 6 to 1 than is possible with any other method of making blocks, even should they be gauged 5 to 1.

As the blocks made upon the "Dri-crete" machine are made with a wetter mixture than is possible with any other machine, considerable labour is saved, because the blocks only require watering the day after they are made instead of for five or six days. The number of blocks which two labourers can produce on the "Dri-crete" machine is 200



gravel, granite, stone, and preferably of porous aggregates like breeze, pumice and broken brick, etc., and on this the facing is applied by the hinged waterproofing frame. Not only does the patented frame or mould produce a waterproof face, but it also provides for the least thickness of facing consistent with a good, lasting and satisfactory surface. Months of experimenting were necessary to find the most practical thickness for the facing. It was found that by using the "Dri-crete" machine to give the requisite uniformity and adhesion a $\frac{1}{4}$ -in. face was sufficient. For the back or body of the blocks preference should be given to porous aggregates. The drawback to the use of concrete in humid atmospheres has often been the objectionable condensation. A porous concrete prevents the condensation which occurs on all non-absorbent surfaces. The use of a porous aggregate in concrete also makes the rooms warmer in winter, because the heat of the room is absorbed and held for several hours in the interstices of the porous concrete. The body of the block is gauged with 6 of aggregate to 1 of cement. The facing (which is applied in the second mould or frame) is a quarter of an inch in thickness, and is composed of:—

- 3 parts of clean sharp sand (washed). 1
- part of Portland cement.
- 3 lbs. of "Pudlo" waterproofing powder to every 100 lbs. of cement.

in a day of ten hours. When a couple of strong workmen get used to handling the machine they are able to make more blocks per day than this number.

The "Dri-crete" machine also makes partition slabs either with or without a waterproofed face. To form the required thicknesses of the slabs, packing pieces are bolted to the bottom of the mould box to raise the pallet to the desired heights.

The standard "Dri-crete" machine makes 18-inch \times 9-inch \times 9-inch blocks for ordinary walling and also quoin or corner blocks of the same size. Extra fittings are supplied for making half and quarter blocks, which are multiples of the above sizes. Other attachments are made for producing blocks or slabs in the various thicknesses. Blocks for flues can also be made.

Prices of the machine can be had on application to the maker, Mr. B. F. Hartley, Lodge, Cambridge. The machine appears to us to possess many advantages over others we have seen.

The general contractors' section of the Association of Montreal Building and Construction Industries declined to meet the Building Trades Council to discuss the question of wages, hours, and conditions on the ground that an understanding between certain contractors and the council had been broken by a strike of bricklayers employed by some members of the Association.

HEALTH MINISTRY'S HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health says:—During the week ended August 23 the new housing schemes submitted to the Ministry of Health numbered 228, and the schemes approved, 102. The total number of schemes so far submitted is 4,596, of which 1,310 have been approved. The approved sites cover an area of 17,481 acres, and plans have been approved which provide for the erection of 15,917 houses. The above figures include besides the schemes of local authorities, those of public utility societies. The number of houses upon which building work has begun is about 8,000.

In order to expedite progress with housing schemes, the Ministry of Health have decided to amend the form of the Compulsory Purchase Order, 1911, so as to shorten the procedure which local authorities have hitherto been required to adopt under that order in submitting proposals for the compulsory acquisition of land for housing. By an amendment of the regulations regarding advertisement, deposit of plans, notice to owners, and the presentation of objections, and by shortening the period necessary for the completion of each of these stages the time entailed by the whole process has been shortened from about two months to about three weeks.

In pursuance of the scheme of converting houses into flats, two thousand such houses in London have now been inspected by the London Housing Board, and nearly a thousand have already been scheduled as generally suitable for conversion. The Office of Works will undertake the work of conversion, and in two or three of the London boroughs the preliminary stage of these operations has now been entered upon. It is intended that the flats created under this scheme, should, as far as possible, be self-supporting, and should yield an economic rent. The choice of tenants for them will be entirely in the hands of the local authorities, by whom the flats will be taken over when completed.

In view of the need for further dissemination of information on the Government's housing proposal the Ministry some time ago invited the co-operation of voluntary organisations concerned in national welfare. As a result, 135 meetings—promoted by workers' educational organisations, diocesan conferences, universities, and Rotary clubs—have been arranged to take place between July 1 and November 30.

Whitechapel Art Gallery trustees are arranging to hold a housing and town planning exhibition in October and November next.

After being stored at the Guildhall for some years, a bronze statue representing Peace, in memory of King Edward the Peacemaker, has been placed at the top of Milkom Street, Bath. It has not yet been formally unveiled.

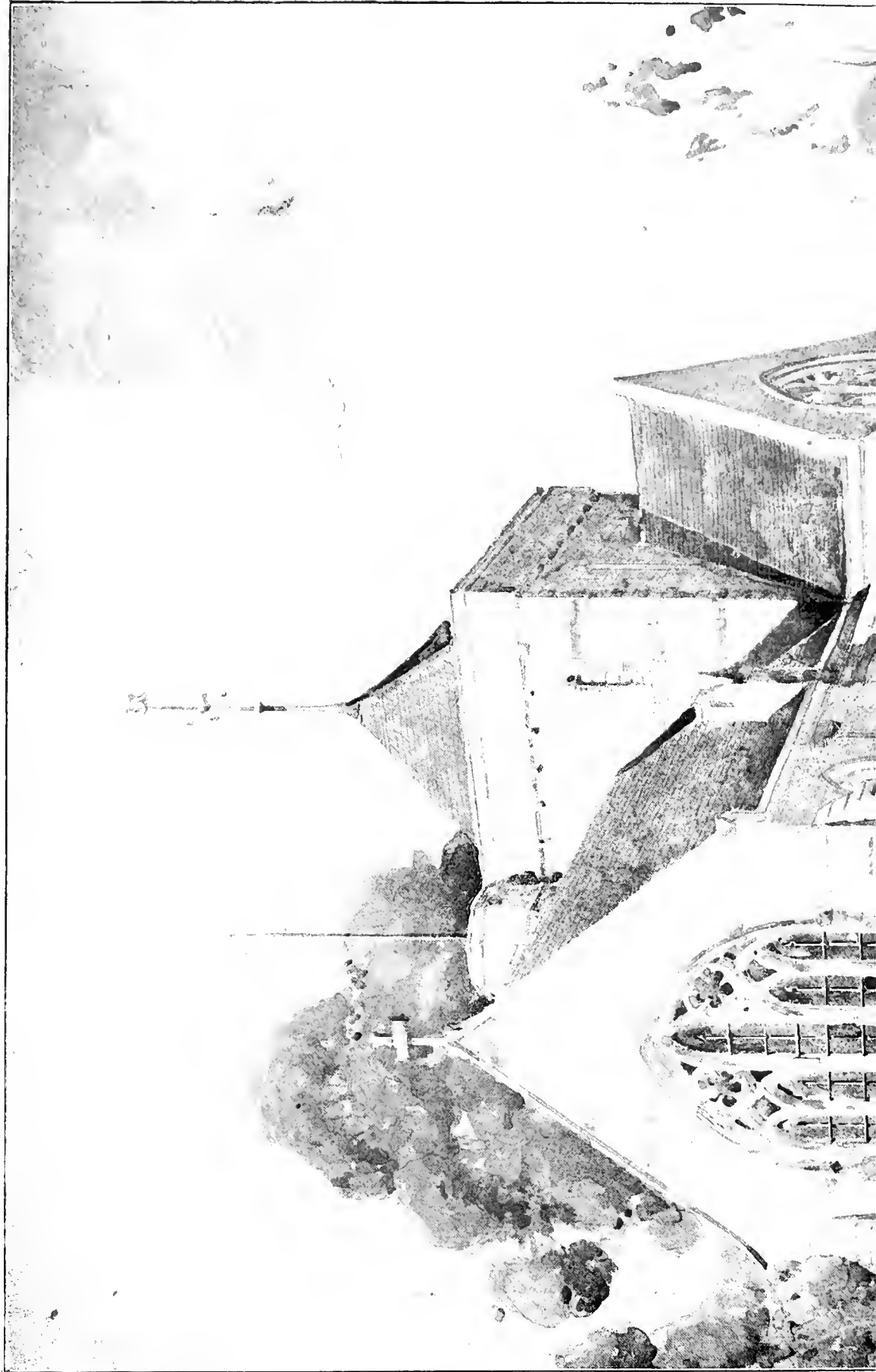
Canon E. F. Murnane, rector of the Most Holy Trinity, Dockhead, states that over 400 men and boys of his congregation made the supreme sacrifice. He has decided to erect a wayside chapel in Parker's Row to their memory.

The provision of a musical festival theatre at Glastonbury is being advocated. An appeal is being made for £10,000 to cover the cost, and a design has been prepared by Professor Sydney Adshad, of London University.

The Birmingham Housing and Town Planning Committee has appointed Lieutenant-Colonel Frank T. Cox, D.S.O., to be Housing Director at a salary of £1,000 a year. The appointment is a temporary one. The new official, who is 35 years of age and has had 15 years' experience as a builder at Maidstone, will begin his duties on September 22.

The Board of Education of Fort William, Ontario, has engaged A. C. Stewart and Son to erect a new collegiate institute on a cost-plus basis. The firm will receive 7,000 dollars in addition to the actual cost of construction. Mr. Stewart suggested that the work be carried out in this manner. He stated that, owing to the uncertainty of the market for building materials and the labour situation, he was unable to submit a tender that he would consider satisfactory either to himself or to the ratepayers.

THE BUILDING NEWS, SEPTEMBER 5, 1919.

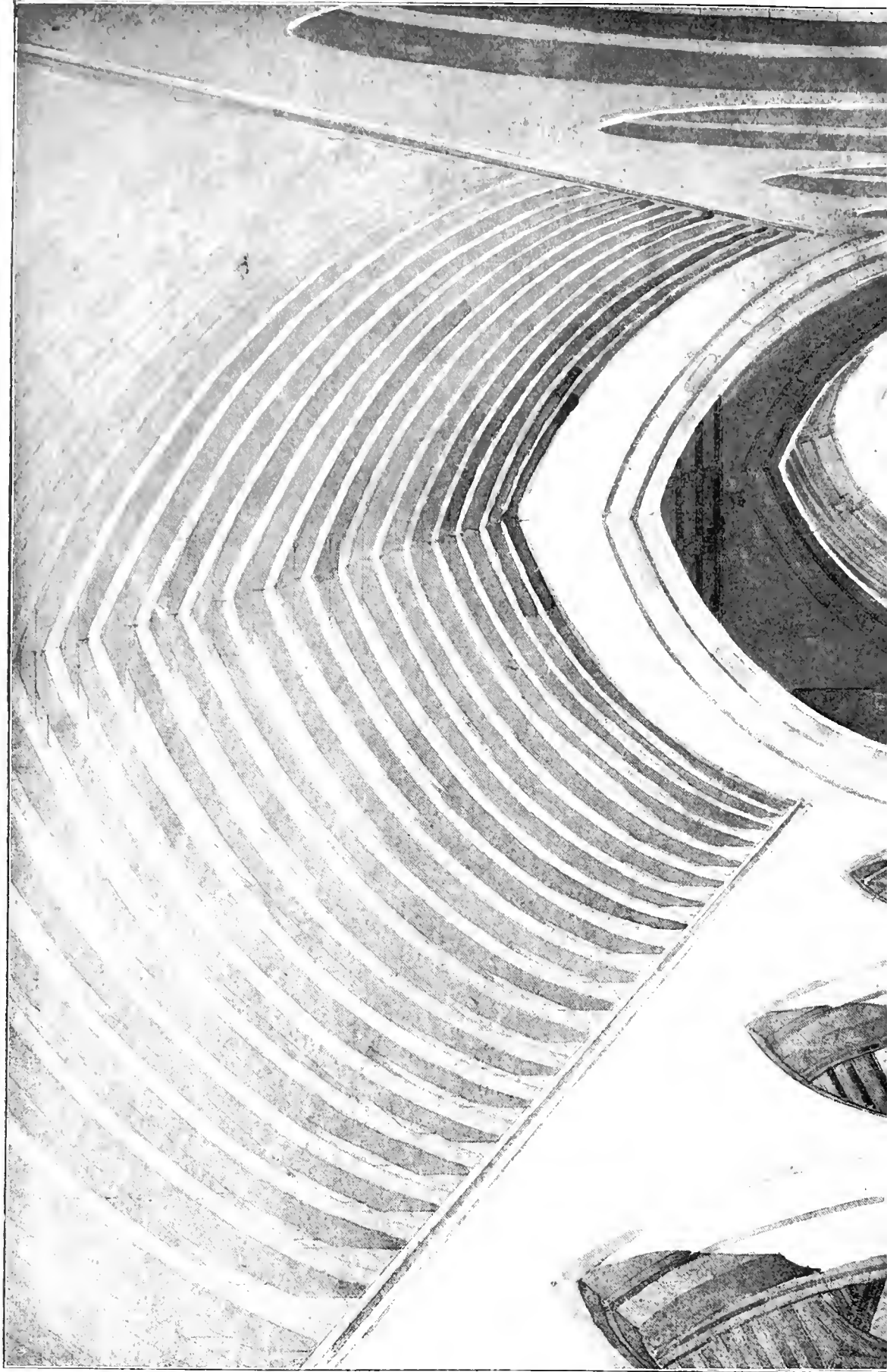


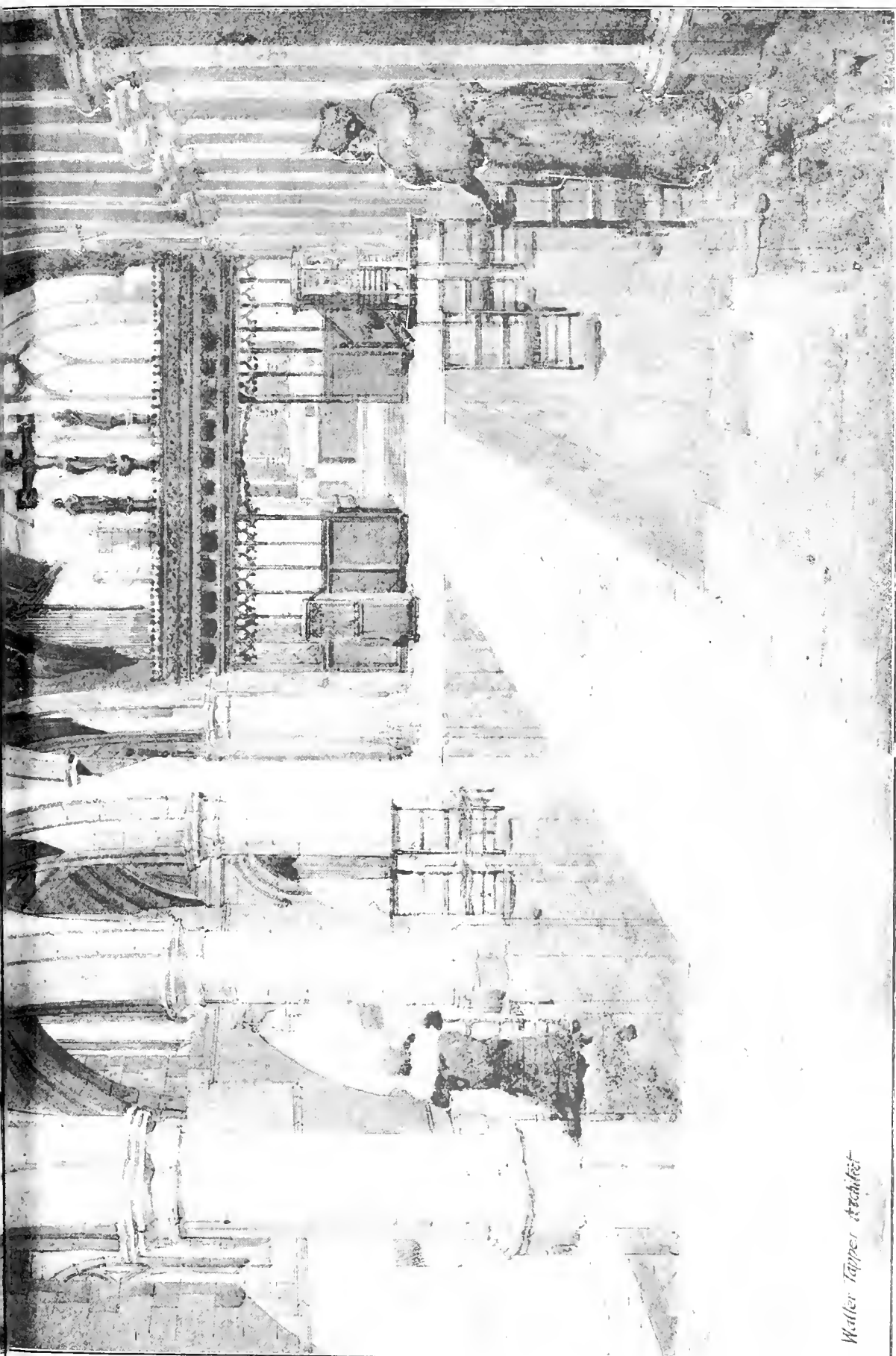


by Sir Tupper Ansell

“THE WHITELEY HOMES” CHURCH, BURHILL PARK, SURREY.
MR. WALTER TAYLER, F.R.I.B.A., Architect.

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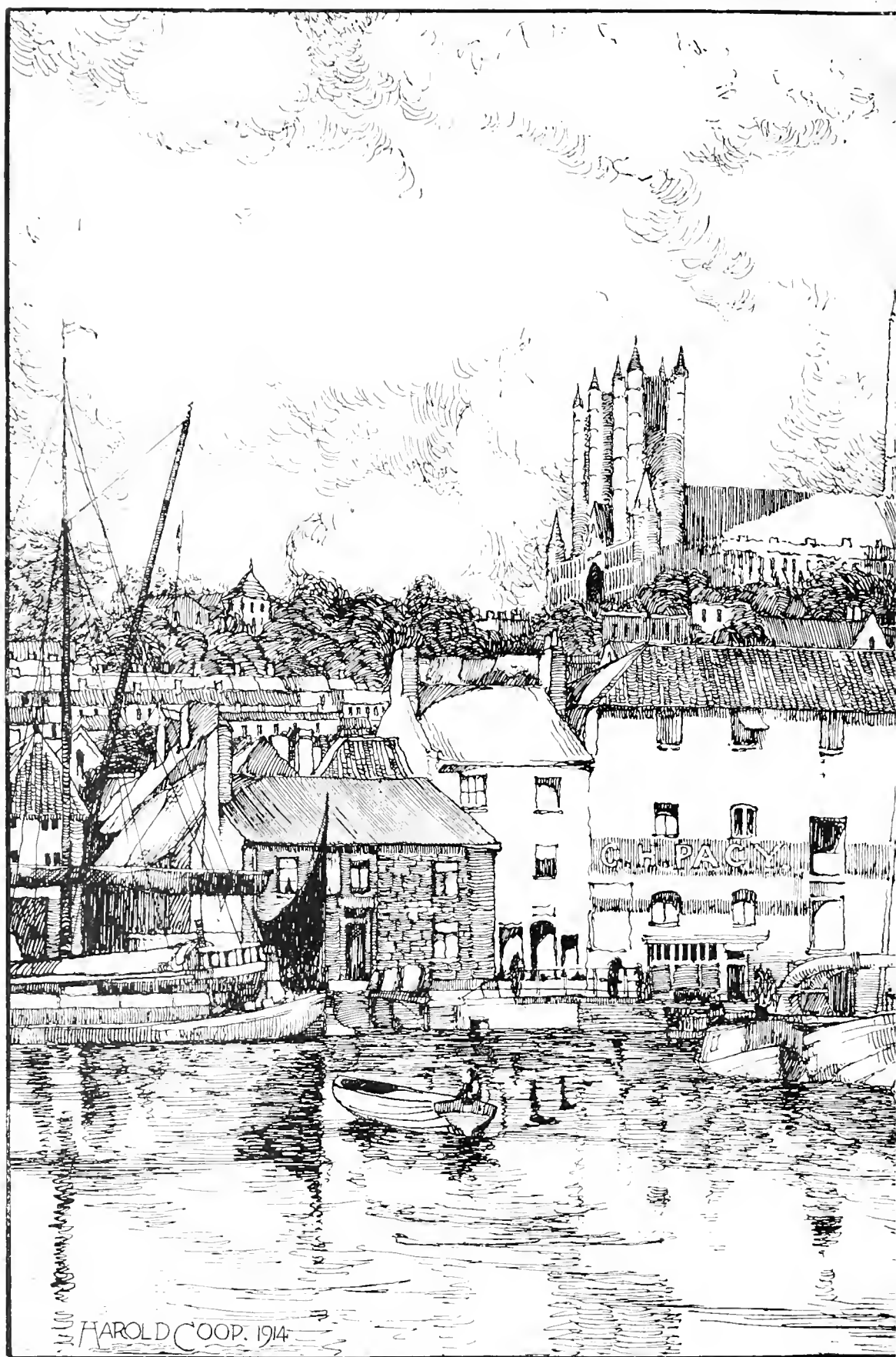


Walter Tappin Architect

THE WHITELEY HOMES CHURCH, BURHILL PARK, SURREY.
MR. WALTER TAPPIN, F.R.I.B.A., Architect.

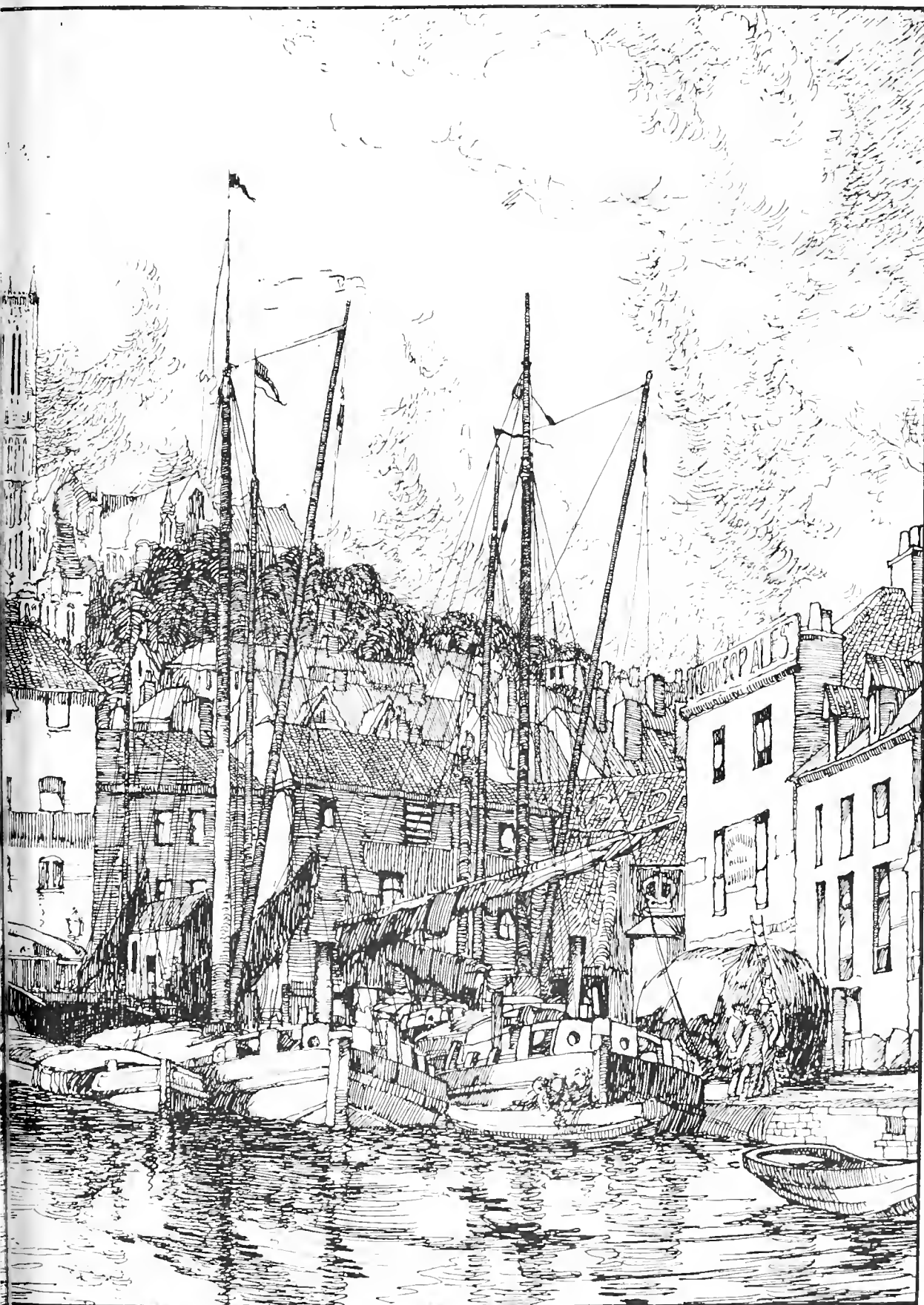






VIEW OF THE CATHEDRAL, FROM THE BRAYFORD, I

SEPTEMBER 5, 1919.



LN.—A Pen Drawing by Lieutenant HAROLD COOP, from the Royal Academy.



BEER, ANCIENT AND MODERN.

Probably no other British building stone has such a long and continued record of successful use extending back over a thousand years, as that quarried at the romantic village of Beer, about two miles from Seaton, on the south coast of Devon. The stone, which is of the calcareous kind, lies in so solid and thick a bed that blocks can be cut out from it practically without wastage, and, as the stratum is very compact (that is, free from fissures), and is, besides, of so workable a nature, it can be sawn out in blocks from the general mass to any dimensions. Owing to these unique advantages the quarries yield random block of very much larger average dimensions than the market average of either Bath or Portland stone. Blocks of from three to five tons are quite common, and indeed the only restriction as regards size and weight is the means of transit.

The stone is of very agreeable appearance, fine grain (especially fitting it for delicate carving), and is easy and cheap to work. It is, beyond rivalry, the cheapest stone in the market. It hardens very considerably after being exposed to the weather, and providing it is set in the building upon its natural bed it is a thoroughly reliable stone for exterior work of all kinds. Some architects and builders seem doubtful as regards the use of Beer stone for exterior purposes on account of its soft nature when newly quarried, but an examination of the numerous old buildings in which the stone has been used externally in the past ages is positive proof that the doubt is nothing more than prejudice. The finished cost is practically the same as Bath stone, and only about one half the cost of Portland stone, and St. Stephen's Chapel, London, is a good example of its durability in a London atmosphere, while the church of St. Pancras, Exeter, has resisted deleterious city air for 600 years. The tests of its strength have been most satisfactory; and there are no small quarries at Beer, as elsewhere, producing inferior or outcrop stone, so that an architect who specifies Beer stone knows he will get the best quality, always alike.

Of late the demand for and appreciation of Beer stone has increased very materially owing to the enterprise of its present owners, the Beer Stone Company, Limited, who have now representatives in various parts of the kingdom, who will, at request, interview any architect or builder desirous of fully acquainting himself with the advantages of the stone. At this time of the year many of our readers may be on holiday in "Glorious Devon," and if so they will find a visit to Beer a very pleasant one. The Beer quarry team, which was the subject of a picture painted at Beer by Stanhope A. Forbes and exhibited in the Royal Academy, has seemingly left the road for all time. In the days before the war the sight of four horses drawing the huge blocks of stone from the quarries was a familiar one at Beer and Seaton, but the old horse methods have now been superseded by mechanical transport. The first blocks removed from the quarry by motor lorry were conveyed to the Seaton railway station on a recent Friday morning. That a motor-lorry should enter the underground depths of the Beer quarries was a thing undreamt of a few years ago, but, henceforth, the motor-lorry will be continuously in evidence, and doubtless the courtesy of the manager (Mr. E. Terrell) will give all facilities for inspecting the quarries and witnessing the motor being loaded up with stone.

The quarries are entered by a large archway, and extend a quarter of a mile underground at a depth of about 300 feet from the surface. In one part is a square chamber, cut with a cove of quadripartite vaulting. It has been supposed that this was a chapel in olden time. From these quarries for probably a thousand years and more stone has been excavated, and the supply is practically inexhaustible. The stone has been used in many of the old important ecclesiastical buildings in the West Country, in Exeter Cathedral, and several of the city churches, while it has also been much used in local churches. The Parish Church at Axminster has a Beer stone Norman doorway.

To handle blocks of stone weighing about two tons is no easy task when attempted in half darkness, and in a circumscribed area, barely sufficient to accommodate a good-sized tea table, but the masses of material are quickly hoisted by the crane on to the lorry, to the accompaniment of the "drip, drip," of water as it percolates through the natural roof to the soft ground beneath.

The conditions of work are not ideal, and one experiences a sense of relief on getting into the sunlight once more. The sight of a modern, up-to-date motor vehicle emerging out of the mouth of Nature itself, after penetrating about a quarter of a mile underground, seems a trifle incongruous. Much as one misses the old quarry team, one feels that the speedy removal of the stone will be very advantageous in these days, when building materials are so much in demand.

THE GOVERNMENT AND THE BUILDING TRADE.

The Building Industries Consultative Board, representing the architects, surveyors, building trades' employers, and building trades' operatives of the country, was recently formed by the Royal Institute of British Architects for the purpose of concerting measures to relieve the stagnation in the building trade. One of the first evils that it has had to deal with is the excessive cost of building, due in part to the uncertain supply and the high prices of building materials.

The Board has been in communication with the Ministry of Munitions, which, through its Department of Building Materials Supply, is the most important single factor in determining the output and cost of materials. The Ministry has very courteously assisted the deliberations of the Board by supplying it with the fullest information as to its past procedure and present policy, and has invited from the Board an expression of opinion as to its future policy.

The Board has accordingly passed the following resolutions and forwarded them to the Ministry of Munitions:—(1) "That in the opinion of this Board the stocks of bricks and other building material (in excess of actual Government requirements), which are the property of or are controlled by the Government, should be sold in the open market with a reasonable margin above cost to cover expenses. (2) That in the opinion of this Board the building industry and its associated trades should now be and remain free of Government control or interference."

The Board is unanimously of opinion that the speedy establishment of a free market in building materials will go far to improve the difficult situation which at present exists.

OBITUARY.

Mr. Daniel O'Connell, of Derrynane Abbey, Co. Kerry, whose death was recently announced in his eighty-fourth year, was a grandson of the Liberator, Daniel O'Connell. He was a Deputy Lieutenant for the county, and was, according to the *Irish Builder*, the oldest architect in Ireland. Mr. O'Connell originally joined the Royal Navy, but after a short time retired, and entered the architectural profession. He served his pupilage to Hansom of London, and from time to time carried out some work in the South of Ireland, chiefly ecclesiastical, and in the diocese of Kerry. His principal works were the R.C. churches of Caherdaniel and Bonanne and several parochial houses—Waterville, Caherdaniel, Sneem, and Eyeries (Co. Cork) amongst others. For a number of years he had ceased to practise very actively, though occasionally undertaking commissions for his friends. Of a most kindly and courteous disposition, he was much esteemed by those who had the privilege of knowing him.

Mr. John Wibley has been appointed assistant borough surveyor of Plymouth. He was, before the war, chief assistant in the borough surveyor's office, and will now succeed Mr. Trounson, who retires on November 3. He served in the war, and attained the rank of captain in the Royal Engineers. There were sixty-one applications for the post.

Correspondence.

WOODEN CONSTRUCTION IN EUROPEAN COUNTRIES.

To the Editor of THE BUILDING NEWS.

Sir,—Could any of your readers possibly tell us the approximate percentage of wooden construction in individual European countries to-day?

It is probably very much higher than formerly, because the ravages of war and the need of immediate housing for both plants and people may make necessary a considerable amount of wooden construction in countries which had little or none of it before.—Yours faithfully,

OSBORNE-PEACOCK CO., LTD.

London Office, 93, Wardour Street, W.1.

COMPETITIONS.

NOTTINGHAM.—The first prize of £350 offered by the Nottingham Corporation for the best plans for the laying out of the Sherwood site and erection of some 1,200 municipal houses, has been awarded by the assessor, Mr. Gotch, to Mr. W. A. Kneller, of Victoria Street, Nottingham; the second, of £100, to Mr. F. J. Horth, of Hull; and the third, of £50, to Mr. S. Poynton Taylor, of Harrow-on-the-Hill. There were twenty-five sets of plans.

EDINBURGH.—The Edinburgh Town Council had again before them last Wednesday the report by Sir John Burnet, R.S.A., the assessor for the competitive plans submitted by architects in Edinburgh and district for housing schemes in four city areas, and made known the following list of successful competitors:—Wardie area—First premium (£150), Messrs. A. K. Robertson and T. Aikman Swan, A.R.I.B.A., architects, 29, Hanover Street; second premium (£75), Charles E. Tweedie, architect, 4, Belhaven Terrace, Edinburgh; third premium (£50), Frank C. Mears, 4, Forbes Street, Edinburgh; honourable mention, Thomas Linton, Willowbank House, 243, Newhaven Road, Leith. Saughtonhall area—First premium (£150), A. K. Robertson and T. Aikman Swan; second premium (£75), Charles E. Tweedie; third premium (£50), Alexander McWilliam, Viewhill, Dovecot Road, Corstorphine; honourable mention, Reg. Fairlie, Geo. Reid, and J. S. Forbes, 14, Randolph Place, Edinburgh. Craigleith area—First premium (£150), A. K. Robertson and T. Aikman Swan. The Assessor makes no award of second and third premiums in this area. Willowbrae Road area—First Premium (£150), A. K. Robertson and T. Aikman Swan; second premium (£75), Charles E. Tweedie; third premium £50, Reginald Fairlie, Geo. Reid, and James S. Forbes, architects, 14, Randolph Place, Edinburgh. The Committee decided that no one firm of architects should be appointed to carry out more than two area schemes, and after consideration they made the following appointments:—To be architects for the Wardie and Craigleith areas: A. K. Robertson and T. Aikman Swan. To be architect for the Saughtonhall area: Charles E. Tweedie. To be architects for the Willowbrae Road area: Reg. Fairlie, Geo. Reid, and J. S. Forbes.

Mr. William Longmaid, who has died at Southport, aged eighty-five, was the oldest artist in the town. He was the first master at the Victoria Science and Art School, Southport, and president of the Southport Society of Artists from its inception.

The Hazel Grove and Bramwell U.D.C. have been recommended to appoint Messrs. Pierce and Sons, Stockport, as architects for the erection of forty dwellings in Hazel Grove, and Messrs. Adshad and Topham, of Manchester, as architects for building twenty houses at Bramhall.

We understand that Mr. Herbert Vincent, who was associated with Messrs. Harris and Sheldon, Limited, for fourteen years as sales and publicity manager, and has latterly held a similar position with Messrs. Parnall and Sons, has transferred his services to Messrs. E. Pollard and Co., Limited, the well-known store fitters, of 29, Clerkenwell Road, London, E.C.1, where, as manager of their sundries fittings department, he will be able to make use of the specialised knowledge he possesses of modern shopfitting and business organisation gained in the United States, Canada, and the leading European countries. It is Messrs. Pollard's intention to back up Mr. Vincent's efforts by opening West-End sales-rooms near Oxford Circus as soon as constructed.

PROFESSIONAL AND TRADE SOCIETIES.

THE FEDERATION OF CIVIL ENGINEERING CONTRACTORS.—A Federation under the above name has recently been formed, and the members of it constitute practically all the large civil engineering contractors in Great Britain. It will be appreciated that the present industrial situation, as well as the important reconstruction work to be carried out in the near future, calls for the formation of a body to represent interests which are at present entirely unrepresented by any existing association of building or public works contractors. Contracts entered into by the members of the above Federation are in many cases of very long duration and of very large scope, and firms who enter into such contracts have necessarily to look forward to periods several years ahead, in regard to which it is extremely difficult, owing to the existing state of things, to make any definite or clear prognostications. The main object of this Federation, we are informed, is to act collectively through an elected council in relation to the professional institutions and public authorities and to deal with trades unions and other labour organisations in regard to hours of work, rates of pay, and all other matters appertaining to the employment of labour. This latter work must necessarily include a participation in the work by Conciliation Boards which may be already constituted or whose constitution is now in contemplation. The first council, elected at the first general meeting, on June 30, is as follows:—President, Viscount Cowdray, P.C.; vice-presidents, Sir John Jackson, C.V.O., and Mr. James Raitton, C.B.E. (Topham, Jones, and Raitton, Ltd.); members, Messrs. H. C. Baldry (Baldry, Yerburch, and Hutchinson, Ltd.), H. F. Brand (Charles Brand and Son), C. R. Hemmingway (Logan and Hemmingway), T. Wilson Lovatt (Wilson, Lovatt, and Sons, Ltd.), Gerald G. Lynde (Edmund Nuttall and Co.), T. Malcolm McAlpine (Sir Robert McAlpine and Sons), T. Tyson Middleton (Walter Scott and Middleton, Ltd.), J. Harry Price (John Price and Sons), and Sir E. W. Moir, Bart. (S. Pearson and Son, Contracting Dept., Ltd.). The secretary is Mr. E. J. Rimmer, and offices have been taken at 40 Broadway, Westminster, S.W.1.

MAP MAKING.—At a recent meeting of the Croydon Camera Club, Mr. Sidney Tatchell, F.R.I.B.A., gave a highly interesting lecture on map making, recalling infant days when the drawing of maps was welcomed as an escape from depressing instruction, particularly when the sporting element entered with configurations from memory. In point of originality these put to shame the finest ordnance productions. From the lecturer's remarks it became apparent to all that not only is map making a truly scientific pursuit, but accurate and rapid map reading is by no means so easy as some might suppose. To all intents and purposes it may be said that an expert ordnance map reader can clearly visualise the region the map represents, even to determining from any standpoint whether the visibility of distant hills is eclipsed by nearer elevations. A useful tip, possibly, was that the letters "P. H." in ordnance maps indicate a source of great comfort to weary pilgrims, provided "P. H." is not closed, or run out of beer. Various maps from half an inch to 25 inches to the mile were shown; also a built-up model of a landscape: the full scale map which accompanied it showed clearly the principles involved in map making. The one inch to the mile ordnance maps, Mr. Tatchell said, will be found the most generally useful; and it was to be noted that unless shown to the contrary all maps are drawn north and south, and in the smaller ones footpaths indicated are not necessarily rights of way.

The report of the committee on the proposed alteration of flower beds at Hampton Court Gardens is issued as a White Paper (Cmd. 326, price 1d.). The recommendations of the committee, of which Sir Aston Webb was chairman, have been given by us. The general idea is that the gardens should revert as far as possible to their condition in William and Mary's time and to their original plan.

STATUES, MEMORIALS, etc.

OLD BUCKENHAM WAR MEMORIAL.—The cross erected as a War Memorial at Old Buckenham was unveiled in the course of Divine service last Sunday afternoon. The memorial, which has been erected on the village green by Mr. and Mrs. Lionel Robinson, is a replica of the "Cross of Sacrifice," designed by Sir Reginald Blomfield, R.A., for all the British military cemeteries abroad. The total height is 24 ft. 6 ins., and the materials are Portland stone with the sword in bronze. The names of the 39 men of the village who fell in the war are incised and gilt on the drum below the base of the cross. The cross stands some 40 ft. back from the road, with willows and other trees around it. Above the names of the fallen appear the words:—

For God—For King—For Country.

And beneath, the following lines of the late Second Lieut. H. Reginald Preston, 3rd Royal Berks Regiment:—

If his dust is one day lying in an unfamiliar land,

(England, he went for you),

O England, sometimes think of him, of thousands only one,

In the dawning, or the noonday, or the setting of the sun,

As once he thought of you.

In designing this cross, Sir Reginald Blomfield had in view certain main ideas; first to show by the great sword that the memorial is a memorial to fighting men who have died for their country, and in the second place to give a suggestion of the Crusaders' spirit. The Old Buckenham cross is the second of the four standard sizes in which this cross has been designed, and is the first cross actually erected.

CHIPS.

After a nineteen-weeks' strike, the operative plumbers of the Potteries district have reached an agreement with the Master Plumbers' Association, and resumed work last Monday.

The Luddendenfoot Urban District Council have instructed Messrs. Sutcliffe and Sutcliffe, architects, to prepare and submit to the council draft plans of alterations of Victoria Hotel, for council offices, including caretaker's house.

A partnership has been arranged between Messrs. Lanchester and Richards, F.R.I.B.A., and Mr. Geoffrey Lucas, F.R.I.B.A., and their practice as architects will be carried on under the style of Lanchester, Richards, and Lucas at 47, Bedford Square, W.C.1.

Grimby Town Council have unanimously decided to purchase from Lord Warborough 128 acres at £150 per acre for its housing scheme, which will provide for 1,000 houses. The chairman of the housing committee described the scheme as colossal, entailing an expenditure of between £300,000 and £1,000,000. The explanation of the scheme and its confirmation occupied a little more than five minutes.

The Guards must be housed somewhere, and a sarcastic gentleman was recently assured in the House of Commons that the War Office had not the least intention of rebuilding in brick the temporary camp on Wimbledon Common as a memorial of the Great War. "Nevertheless," says the London correspondent of the *Manchester Guardian*, "I hear that married quarters for sixty families are to be set up there at a cost of £20,000, 'with baths and all modern conveniences.'"

At a meeting of Cupar District Committee, held on Tuesday, it was agreed to postpone the district housing scheme until the early months of 1920. Mr. David Lees, of Easter Pitcottie, who presided, said three-roomed houses would cost about £750, and it would take at least £300 to erect four-roomed houses. They would have to ask a rent of about £50 a year for four-roomed houses, and it would be perfectly absurd to put up working-class houses at such a rental.

For the purpose of laying out a new graving dock on the Clyde, a private limited company has been formed. The new yard will have a 650 ft. river frontage on the north bank of the Clyde at Scotstoun, Glasgow, and will give space for vessels ten to twelve thousand tons deadweight. Mr. Hugh M. Macmillan, former director of the Fairfield Shipbuilding Company, Govan, and manager of Workman, Clark, and Co., Belfast, will be managing director of the new company.

Our Office Table.

Messrs. B. T. Batsford, Ltd., are publishing a sixth edition of "The Cheap Cottage and Small House," by Mr. Gordon Allen, F.R.I.B.A., remodelled, extended, and re-illustrated. The illustrations comprise several hundred figures. Many of the cottage estates developed in connection with the housing of war workers are included, such as Well Hall, Woolwich, Roe Green, Kingsbury, Greta, Crayford Garden Village, Chepstow, and Mancot, Cheshire, as well as municipal schemes. In addition, examples are illustrated of isolated groups and single detached cottages, as well as small houses of the "week-end" type. The work also shows cottages of special or experimental character, as regards both material and plan. Elevations, plans, and sections are combined with photographic views, and a place has been found for numerous details and fittings.

Mr. Patrick Geddes, professor of botany at St. Andrew's, has been engaged by the International Zionist Commission for the planning of the new Jerusalem and its University, along with Dr. Wiczmann, head of the British Zionist Commission. Contemporaneously with the Palestine scheme he is to organise a department of Sociology and Civics on behalf of the Bombay University, and during the cold season will carry out Indian town-planning, a work in which he was previously employed.

The Rochdale Housing Committee had before them last week a provisional estimate prepared by the corporation architect (Mr. P. W. Hathaway) of the cost of building the new houses on the Spotland estate. The *Rochdale Observer* understands that the amount of the estimate for building 50 houses was a shock to many members of the committee, and refrains from publishing the figure—as tenders for the work have yet to be invited—but the general feeling in municipal circles is said to be that the provisional estimate is staggering, especially when the cost of the land and of street works and sewerage (for which a "first instalment" of £3,000 was applied for at the last council meeting) is added. It is intended that the 50 houses referred to shall embody several types of dwellings, so that the public may have an opportunity of judging which type they think most suitable. The majority of the houses are to be of the "parlour" type—that is, with three downstairs rooms—and three bedrooms.

The Maidstone Town Council have accepted a tender of £144,665 for the erection of 162 houses in the borough under the Housing and Town Planning scheme. The council propose to erect in all 400 houses. The council also approved of plans for a new picture palace in the borough, it being explained that, as they were in accordance with the by-laws, the council were bound to pass them. It was found that several very old houses were being pulled down, and that the new building would occupy the sites of these. The council resolved to place the facts before the Ministry of Health, and to inform them that in their opinion the proposed building ought not to be put up until labour and material were available for the erection of cottages for the working classes.

The French Red Cross organisation is anxious to bring home to the British public at large the real state of affairs in the devastated area of Northern France and Belgium. With this object in view it is arranging a series of personally conducted tours through the region in which a number of representative men will be the guests of the French Red Cross. The Royal Institute of British Architects has been approached, and it has been arranged that the president, Mr. John W. Simpson, and Sir Baister Fletcher, Sheriff of London, and members of the R.I.B.A. Council, will start on a tour leaving London on September 4.

The Executive Committee of the London Labour Party have issued a statement respecting the report of the Select Committee on London Transport, in which they say that

while agreeing to a considerable extent with the analysis and criticism contained in the Select Committee's report, they consider it impracticable arbitrarily to separate transit policy from that affecting other metropolitan public services, such as housing. They agree that there ought to be a supreme traffic authority for Greater London, but they point out that the proposed authority would only make confusion worse confounded by adding another authority to the far too numerous conflicting public bodies already existing in the metropolis. They hold to the view of the special conference of the London Labour Party, held on February 1, 1919, that the area of the L.C.C. should be enlarged to the Metropolitan Police district, and that the council should have powers to own and operate all forms of passenger transit over the Greater London traffic area, and generally function as the supreme traffic authority for the metropolis.

The statue of Abraham Lincoln, by George Grey Barnard, which has been presented to Manchester by Mr. and Mrs. Charles Phelps Taft, now stands in the position it is to occupy, for a time at all events, in Platt Fields, a few yards in front of the old hall. The base on which the figure rests is a rugged piece of Peterhead granite, and weighs six tons. It is to be 2 ft. above the land surface. The figure itself is of bronze, 14 ft. high, and faces Oxford Road. The task of conveying the statue from the Chief Fire Station to Platt Fields and putting it in position was entrusted to the city architect (Mr. Henry Price). The unveiling is to be performed by Judge Alton B. Parker, Chancellor of the Sulgrave Institution, New York, who, with other delegates, is expected to leave New York this week and arrive in England early in September. About September 15, therefore, it is expected that the unveiling ceremony will take place.

A Standard Form of Specification D. 82, has been prepared by the Ministry of Health for use by local authorities and public utility societies in connection with State-aided Housing Schemes under Part III. of the Housing of the Working Classes Act, 1890. Every scheme which has not yet gone to tender, or is not at the date of the issue of this Memorandum on the point of going to tender, should comply with the standard form of specification. The standard specification is drafted so as to cover various alternatives, and it should be adapted so as to suit the particular circumstances of each scheme. The Ministry will not be prepared to approve schemes which show deviations from the standard specification, except in so far as the Ministry agree that they are rendered desirable by local circumstances and conditions. It is very desirable that quantities should be taken off in such a way as to enable tenderers to tender for as many or as few houses as they desire. In this way it is hoped to give an opportunity to small builders to tender for work to the extent to which their capacity permits, and it is hoped that in this way lower tenders may be obtained and greater expedition in the building of the houses. Local authorities should therefore arrange that quantities should be taken off for block units of types, thus:—If the lay-out provides for detached houses, quantities for one house of each type; if the lay-out provides for semi-detached houses, quantities for each pair in types; if the lay-out provides for three houses or more, quantities for each block in types.

The President of the Royal Institute of British Architects has made the following appointments at the request of the Government Departments concerned: Sir Frank Wills, F.R.I.B.A., Member of District Selective Committee No. 8B (Bristol), under the Appointments Department of the Ministry of Labour; Mr. J. W. Cockrill, A.R.I.B.A., Member of the Production Committee for Housing Region M, under the Ministry of Health. Also the following nominations: Mr. Harold Dicksee, A.R.I.B.A., as Assistant to the Consulting Architect of the Province of Madras; Mr. A. L. Mortimer, A.R.I.B.A., as Assistant to the Consulting Architect of the United Provinces. The President has also nominated Mr. A. W. Graham Brown, Student R.I.B.A., as Chief

Assistant to Mr. R. E. Stewardson, A.R.I.B.A., of Shanghai.

The fortnightly publication of the Surplus Government Property Disposal Board, Ministry of Munitions, has now reached its 7th number. Its progress is marked by a further increase of pages to 160, which describe additional materials that have become available for sale. The new features in this issue of "Surplus" include announcements by the Admiralty Contract Department of naval craft for immediate disposal, and also by the Australian Imperial Force Disposals Board, who offer for sale new and part-worn surplus stocks. An illustrated article of considerable interest is on the subject of surplus plant adapted to industry, and specially refers to the utility of aero and tank engines for commercial purposes. Among other illustrated matter there are views of Army huts, which many local authorities are purchasing and converting into dwellings now that the difficulties arising out of existing bye-laws are met by the regulations of the Ministry of Health under the new Housing Act. In the twenty sections into which the immense work of the Disposal Board is classified will be found detailed particulars of the surplus war stocks offered for sale by auction or tender.

A lively discussion followed the submission of the Housing Committee's report to the Nottingham City Council last Monday, and the committee's proposals were vigorously criticised by Ald. E. N. Elborne. They were asked to commit themselves to transactions amounting to practically two millions, he complained, after having four days in which to consider the reports. Type A house provided no parlour. One living room was absolutely monstrous and ridiculous. What conveniences were there for the younger member of the family to spend a quiet half-hour with her young man? Anybody who wanted a quiet half-hour in that family would have to go outside and find some quiet spot. That was a damnable feature of that type of house. Then the larder was shown against the front door. To expect to raise the taste of the working man with such a house was absolutely ridiculous. "Very well. (Laughter.) Oh, you may laugh, you housing members. You're going a devil of a lot too fast." (Renewed laughter.) The interest on the money was equal to £50 a year, and the net income at 6s. a week would be £10. The other £40 would have to be paid by the taxpayers and ratepayers. Was the contractor to have the benefit of the lower prices which might rule before the schemes were carried out? The architect was paid 1½ per cent. commission, or £4,000, for laying out thirty acres and designing three or four cottages. If that was the way the Housing Committee did their business the sooner they were changed the better. Let them get better designs if they could by competition, pay the architect and get rid of him, and adopt the features of the other scheme.

We have, naturally, no such expert knowledge of the best construction for roof aerodromes as his, but we heartily second the opinion of Capt. Maurice Kiddy (late R.A.F.), the assistant secretary of the Society of Architects, as expressed in his letter to the *Westminster Gazette* of Wednesday last, that Central London is no fit place for roof aerodromes of 15½ acres. In any case machines will only be able to land one at a time, the remainder having to circle round until the "all-clear" signal is given. But we should not care to sleep in the surrounding neighbourhood with such a noise in progress every night. No doubt Mr. Gattie's architect could design a suitable building, in collaboration with an experienced pilot, but even if the constructional and technical difficulties could be overcome Central London would appear to remain a very unsuitable spot for such a venture. Mr. Gattie, the chairman of the New Transport Company, would do very much better to adopt as his clearing house Hounslow or another convenient aerodrome—that is, if he is a sufficient believer in the possibilities of civil aviation to do so.

In connection with the Borough of Ilington War Memorial Fund for the Extension of the Great Northern Central Hospital, Holloway,

a Masonic committee has been formed to promote and arrange a Masonic service in aid of the fund, and the committee are strongly desirous that all North London Masons should combine with them to make the event a grand success. All lodges or brethren willing to assist in any way are invited to communicate with the hon. secretary at the offices of the fund, 566, Holloway Road, N.7.

Contract forms and specifications have been the subject of special study by engineers and architects for a number of years. The American Institute of Architects has developed its standard documents; the American Railway Engineering Association has adopted a uniform general contract form; a special committee of the American Society of Civil Engineers have the subject now under consideration. The Associated General Contractors of America now proposes to make the general contractor's position clear and effective on the subject of contracts. It is going to make a careful study of existing forms, both good and bad, of every kind, and in co-operation with the engineers and the architects to eliminate unfair practices and to establish clean, definite, and equitable clauses in contracts under which general contractors of recognised standing will work.

A shipping, engineering, and machinery exhibition, arranged just before the outbreak of the war, is now to be opened at the Olympia on September 25. There will be important exhibits, and many conferences will be held during the show. A kinema will illustrate each day the work of the industries concerned, and there will be many working models and other things of interest to the general public. The exhibition will be opened by Lord Weir of Eastwood. If it is intelligently organised one will expect to see for the first time the war records of the mercantile marine presented in an interesting way, and relics and other exhibits bearing on the great deeds of the merchant service. There ought to be popular lectures on the merchant service and on the history of the great shipping lines and notable commanders, past and present, and other schemes to awaken the Londoner to the fact that he lives in a seaport and owes almost everything to that fact.

An exhibition of interest to amateur photographers has been opened at the Camera Club of "straight photographs" by Mr. Ward Muir, who has taken as the principle of his art the dictum "photography deals with facts. Point your camera at a beautiful fact and you get a beautiful photograph." Mr. Ward Muir's work is direct prints of enlargements from unretouched negatives. He shows the amateur what can be done without recourse to devices for improving a photograph, provided the proper subject is selected and approached from the right point of view. The variety in the exhibition is evidence of what the camera can do if it is properly directed, and Mr. Ward Muir is equally happy in showing a piece of the Cornish coast as seen from a dirigible as in dealing with some of the beauty spots in Rome. He has turned a skyscraper in New York to artistic account, and he shows us beauty in a London gasometer.

A Birmingham tradesman is reported to have received a circular from a London house, intimating the imminent arrival of large quantities of glass goods at prices less than a quarter of those obtaining in England at present for British-made goods. Tumblers cannot be bought at less than 1s. 6d. each; but the German article is being offered at about 60s. per gross, with a 10 per cent. discount for cash. The circular adds that the goods are of the best quality of Bohemian glass, and that the consignment, due early in September, consists of some thousands of cases, each containing 25 or 50 gross.

It is proposed to erect additions to the children's ward and to build a strong chamber at Montague Hospital, Mexborough. The architect is Mr. P. White, Market Street, Mexborough.

£9 4s. per foot represents the value of the land at 311, Oxford Street, sold last week by Messrs. Knight, Frank, and Rutley. The price obtained for the site of 26,000 ft. was about £240,000.

FOR
Olivers'
Seasoned
Hardwoods,
APPLY TO—
WM. OLIVER & SONS, Ltd.,
120, Bunhill Row, London, E.C.

TENDERS.

*. Correspondents would in all cases oblige by giving the addresses of the parties tendering—at any rate, of the accepted tender; it adds to the value of the information.

BATH, LANES.—For a pair of semi-detached houses at Bath, for Messrs. Schofield and Bamford, Jackson and Jackson, 43, Church Street, Lancaster, architects. Accepted tenders:

Hillman, H., and Son, Euston Road, Morecambe, mason	£831 0 0
Willis Bros., Poulton Square, Morecambe, joiner	759 3 8
Cross, W. J., Euston Road, Morecambe, slater and plasterer	370 0 0
Barrow, S., North Road, Lancaster, plumber	315 0 0
Crook, R., Penny Street, Lancaster, painter	81 0 0

BIRM.—For extensions at the Museum, for the town council. Accepted tenders:—

Davidson and Hay, builders	£929 15 11
Mackie and Mackenzie, carpenters	479 14 6
Carr, J., Hunter, plumber	258 5 7
Brodie, J., and Sons, plasterers	128 9 6
Davidson, A., and Sons, slaters	205 8 11
Kintrea, J., and Sons, painters	82 4 6

HIMCROFT.—For additions to Hinckley Grammar School, for the Leicestershire County Council Education Committee. Ernest G. Fowler, County Education Office, 38, Bocking Green Street, Leicester, architect:—

Sleath, F., Rothley	£1,323 15 0
Kellett, J. C., and Son, Leicester	1,090 0 0
Fox, E., Leicester	1,059 0 0

Accepted.

MACECHESFIELD.—For works at Byron Street Council School, for the Primary Education Committee. Accepted tenders:—

Dale and Son, Park Green, for external painting of all wood and ironwork, £295; Rowland and Co., Ltd., builders' repairs, £125; Pickering, W. J., 121, Chestergate, plumbing work, £20 2s.

MUDSTON.—For houses on the Cherry Orchard Estate, for the Corporation:—

King and Son	£147,777
Kearley	146,622
Martin and Newman	146,272
Smith, N.	144,309
Skinner and Son	142,372
Corben and Sons	141,640
Borden and Head	139,026
Clarke and Epps	138,552
Wallis and Sons	137,432
Pattinson and Sons	133,416
Clark Bros. (withdrawn)	132,840
Garden, Cities	130,639

*Accepted. †Local rate of wages not included.

MORETONHAMPTON.—For rebuilding the Bell Inn, Moretonhampton, for the St. Anne's Well Brewery Co., Ltd., Exeter. C. Cole and F. Jernman, 50, High Street, Exeter, architects:—

Lea, E. C., 48, Okehampton Road, Exeter	£3,349 5 0
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Accepted.

NORTHAMPTON.—For houses on the Beehive Estate, for the Corporation:—

Beetive Street: Six houses, north-west aspect: Wilson, T., £6,178, average £1,029 16s. 8d.; Higgs, T., £5,700, average £950; Chown, A. L. and H. W., £5,240, average £873 6s. 8d. Six houses, south-east aspect: Wilson, T., £6,561, average £1,094; Higgs, T., £5,650, average £941 18s. 4d.; Chown, A. L. and H. W., £5,452, average £908 18s. 4d.

Newington Road: six houses, north-west aspect: Wilson, T., £6,254, average £1,042 18s. 4d.; Higgs, T., £5,850, average £975; Chown, A. L. and H. W., £5,410, average £901 18s. 4d.

STAFFORD.—For erection of 41 houses in Coton Field, for the town council:—
Cooke, J. (accepted).

WOLVERHAMPTON.—For erection of houses in Green Lane, for the corporation:—
Tough, H., and Sons, Dudley Road, Wolverhampton (accepted).

LIST OF TENDERS OPEN.

BUILDINGS.

Aug. 21 Sept. 11.—Additions to the High School for Girls, Boston Avenue, Southend-on-Sea.—For the Education Committee.—J. W. Barrow, secretary, Education Offices, 11, Nelson Street, Southend-on-Sea. Drawings may be seen at the offices of the architect, Henry T. Hare, F.R.I.B.A., 2, Gray's Inn Square, W.C.

Sept. 8.—Tenders are invited by the Commissioners of His Majesty's Works, to be addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, S.W.1, for the erection of a new post office at Clacton-on-Sea.

Sept. 9.—The Commissioners of His Majesty's Works, etc., invite tenders for the erection of a new post office at Crook, Durham. Tenders to be addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1.

Sept. 10.—Mason and brick work, carpenter and joiner work, plumber work, plaster work, and slater work in connection with the erection of 12 blocks of dwelling houses at Gorgie, Edinburgh.—For the Edinburgh Town Council.—J. A. Williamson, A.R.I.B.A., city architect, City Chambers, Edinburgh. Tenders to A. Grierson, S.S.C., town clerk, City Chambers, Edinburgh.

Sept. 11.—For 4 houses on the Buddicom Estate, Hough Green, Chester.—For the Housing Committee of the Corporation of Chester.—J. H. Dickson, town clerk, Town Hall, Chester.

Sept. 12.—For erection of 32 houses on the Bent Hill Estate.—For the Prestwich District Council.—S. H. Morgan, A.M.I.C.E., engineer and surveyor to the council, Bent Hill, Prestwich.

Sept. 15.—For buildings in connection with the electricity generating station extensions at Chamber Hall, Bury, Lancs.—For the corporation.—Sealed tenders to J. Haslam, town clerk, Bank Street, Bury.

Sept. 15.—For 16 houses on the building site in the parish of Hagley.—For the Bromsgrove Rural District Council.—Tenders to H. D. Holloway, clerk, Union Offices, Birmingham Road, Bromsgrove.

Sept. 15.—For erection of 37 artisans' dwellings at Child's Hall.—For the Hendon Urban District Council.—G. Hornblower, F.R.I.B.A., 2, Devonshire Terrace, Portland Place, London, W.1. Tenders to H. Humphris, Town Hall, Hendon.

Sept. 15.—For erection of 120 houses at Lower Brazley.—For the Horwich Urban District Council.—T. Green, surveyor to the council, Public Hall, Horwich. Tenders to W. Carter, clerk, Public Hall, Horwich.

Sept. 15.—For three pairs of cottages at Cockley Clay, and four pairs of cottages at Spole.—For the Swaffham Rural District Council.—J. Owen Bond, L.R.I.B.A., 29, Castle Meadow, Norwich, architect. Sealed tenders to S. Matthews, clerk, Swaffham.

Sept. 16.—Erection of new picture house, Askern, Doncaster.—For the directors of the Askern Picture House Co., Ltd.—T. H. Johnson, 29, Priory Place, Doncaster, architect. Sealed tenders to the secretary, F. Hibbert, chartered accountant, 14, Priory Place, Doncaster.

Sept. 16.—For taking down large sliding doors and making small structural alterations in the wards of Section 6 of the township infirmary, Beckett Street, Leeds.—For the guardians.—J. H. Ford, clerk, Poor Law Offices, South Parade, Leeds.

Sept. 17.—Erection of cottages.—For the Bourne, Lincs. Rural District Council.—Tenders to C. W. Bell, clerk, Council Offices, Bourne.

Sept. 17.—Enlargement of Little Heath Council School, Coventry.—For the Education Committee.—G. and I. Steane, 22, Little Park Street, Coventry, architects.

Sept. 17.—The Commissioners of His Majesty's Works invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for erection of cottages at Pembrey, South Wales.

Sept. 18.—For 14 houses at Town End, Chapel-en-le-Frith.—For the Chapel-en-le-Frith Rural District Council.—C. Flint, 5, The Quadrant, Buxton, architect. Tenders to the Clerk's Office, High Street, Chapel-en-le-Frith.

Sept. 18.—For alteration and adaptation of existing dormitories at the institution, East Greenwich, into nurses' bedrooms.—For the Guardians of Greenwich Union.—L. Jacob, 39, Bloomsbury Square, W.C.1, surveyor.

Sept. 23.—For 18 houses on the Christchurch Estate, Wembley.—For the Wembley Urban District Council.—Tenders to E. R. Royle, clerk, Council Offices, Wembley, Middlesex.

The Northallerton R.D.C. have appointed Mr. Linton as architect for their housing scheme.

The late Mr. J. L. Bridgfoot, builder, Oundlo Road, Peterborough, left by his will estate valued at £9,573 gross, with net personalty £1,024.

Mr. R. H. Dyer, the deputy borough engineer, has been appointed to the position of borough engineer and surveyor of Southend. The salary is £750 per annum.

The Penrith Rural District Council have appointed Mr. R. Morton Rigg, architect and surveyor, of Penrith, to carry out the whole of their housing scheme, which includes 240 houses on forty different sites.

The Meltham Council have now received tenders for the erection of twenty-one working class dwellings. Messrs. Abbey and Hanson have been appointed architects for carrying out the work.

While endeavouring to carry out some repairs workmen broke the face of a sundial, locally known as "Nell Gwynn's Sundial," which has for years been in position upon the terrace of Lauderdale House, Highgate, London.

The war memorial decided upon for Mablethorpe parish church is a tablet, to be placed in the church, bearing the names of the Mablethorpe men who fell in the war, and the addition of a treble bell in the tower, thus completing the peal of six bells. Approximately £120 is to be thus spent.

A note by Henry James Stuart, 61, a carpenter at Enfield Small Arms factory, who was found dead with his throat cut, stated that since he reported adversely on the work of one of the girls in the factory under his charge during the war he had been "talked about, and could not stand it any longer."

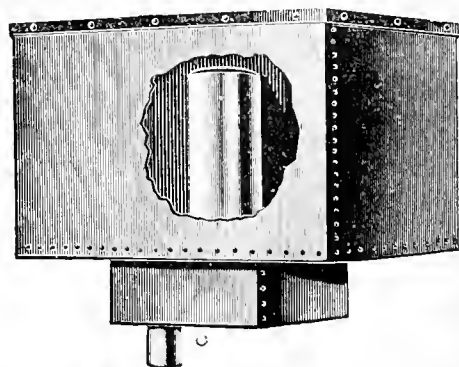
The Free Church of Scotland propose to commemorate the work of Highland fishermen who lost their lives in the war by remodelling, at a cost of £5,000, the church at Fraserburgh. It is desired to provide accommodation for about 800 worshippers, and to have attached a restaurant, where light meals could be served to tired fish-workers. Contributions will be received by Andrew McCulloch, C.A., offices of the Free Church of Scotland, Mound, Edinburgh; or by the Rev. D. Maclean, Moderator.

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THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.	
South Porch, Notre Dame, Louviers, France, from a water-colour drawing by Mr. Barry Pittor.	Mr.

Strand, W.C.2

A.R.B.A., exhibited at the City Art Gallery, Guildhall, E.C.
A War Memorial in Marble and Bronze. Wargrave-on-Thames Church. Mr. W. Reynold-Stephens, sculptor. From the Royal Academy.
War Memorial Lythgate, Guisley Church, Yorks. View, plan, elevations, and sections. Sir Charles A. Nicholson, Bart., M.A., Oxon., F.R.I.B.A., architect.
New Premises in Oxford Street at Corner of Stratford Place, W. Mr. Arthur Sykes, F.R.I.B.A., architect.

Currente Calamo.

People who are buying land and houses, and ratepayers generally, may as well prepare themselves ere long for the heaviest addition to rates that has yet been incidental. The Pontefract (West Riding) magistrates have entered their protest against the granting by the Hemsworth Board of Guardians (whose chairman is Mr. Burns, Labour candidate in the Pontefract election) of £8,000 out of the rates in relief to miners and families during the Yorkshire coal strike. The money was granted on loan, but Mr. Burns during the election admitted the guardians would not get anything like all the money returned. The relief means a 9d. rate, and when the clerk to the guardians applied to the Bench to sign a special rate of 1s., including a 3d. deficit on the previous half-year, not one of three magistrates would do so as a protest against the ratepayers having to find the money. The magistrates are to be commended for their courage, but as in the very near future Labour majorities on the Bench will do as they please, it is pretty certain we shall not wait long for another big strike and doles out of the rates to the "unemployed." The Government has shown the way to bleed the taxpayer for the benefit of the lazy with a vengeance, and it is little wonder that "direct action" is rather coldly regarded for the moment when so obviously a better weapon can be used to bleed capital. The next step, undoubtedly, will be to exempt the generously financed "unemployed" from payment of any rates or taxes at all, and pile the whole burden on to the backs of the thrifty and industrious of all classes.

One thing alone can avert the cataclysm that is threatened, and that is organisation by those likely to suffer. Talk is thrown away. For what it is worth we are glad to note that the Royal Institute of British Architects issued last Monday to its members a circular suggesting, with the view to maintain so far as possible the London traffic services in the event of a lightning or "direct action" strike, that some voluntary organisation should be formed to maintain the essentials of life to men, women, and children not involved in a trade dispute. With

this view a number of very pertinent questions are put, which we hope by this time are being satisfactorily and numerously answered. Members are asked if they are willing and able to help to maintain the London public services—to drive electric trains or trams or motor omnibuses, for instance—if need arises. They are asked also for particulars of their physical fitness and if they can report for duty at any time, and to state what technical training and experience they have had, mentioning that acquired during active service. That, at any rate, many of us have had, and have learned what discipline can do against a mob. Our sincere conviction is that every nexus of organisation of every calling or association of men should be busy now on the lines taken by the R.I.B.A. The dawn of any morning may need prompt action. It is useless to look to the Government or this Parliament for protection. The choice presently, if any choice is left us, will be cowardly flight to some place of safe refuge, if any such can be reached, while anarchy exhausts itself in orgies of rapacious idleness, and sturdy defence of our liberty of action and the lives of all dear to us.

Encouraged, possibly, by the hope to "resume relations" of the R.I.B.A., as voiced by the President, this week's inrush of Hun circulars and requests for fraternisation has been quite a record one. The impudence of some of the senders is really astounding. Nearly all want "specimen copies" of our recent issues and our scales of advertisement charges. One coolly requests us to look up and send him the addresses of probable users of his new system of concrete construction. Another encloses an already prepared article and illustrations of a patent brick which we are invited to insert at "our own rats." A third proposes to establish a British paper in Berlin, because "it is quite clear that there will be no steady and lasting progress of British enterprise in Germany without the pioneer work of its leading papers and journals." This gentleman wants to know if there is "a possibility to carry out in connection with our esteemed paper" the establishment of "a special Berlin office" in conjunction with other leading London and provincial dailies and weeklies." He says he has

"trebled one of our contemporary's 'advertising budget' in less than a year's time." The rest are equally redundant with assurances that all these kind solicitations are "for our benefit," and fraught with reminders of the British working man's rejoinder to the fat concubine of one of the Georges who sought to allay the murmurs of a London crowd by insisting she had come "for their goods." "An' our chattels, too," shouted the workman. Impressed probably with the same conviction, the Hun may save his postage as far as we are concerned, and transfer his patronage to less squeamish papers, and his fraternal co-operation in the interests of the art of architecture to those whose fitness for such fraternisation has not been manifested greatly as a rule in their relations with their native brethren.

More about pisé than we gave on this page last week is abstracted by the *Technical Review* from *Die Volkswirtschaft* of May 24 last. The article gives an interesting account of a special method of building loam-pisé houses, which are recommended as cheap and satisfactory. The author, F. W. Virck, member of a building commission, quotes from a book published in Stralsund in 1819, describing the Hundsche system:—The building process is described in detail. The loam should be weathered, and a clayey variety is best, whereas a sandy marl is useless. A quantity of straw is necessary and an assortment of twiggy brushwood. The walls are usually made from 20 to 21 ins. thick; a couple of boards are fixed by bolts at the correct distance apart; then the space between is rammed with a mixture of loam and straw well kneaded together with water until it reaches halfway up the boards. A layer of brushwood is laid longitudinally, more loam is rammed in, and then a layer of short pieces of branches are laid across the wall. The boards are lifted, and the same process is continued until the full height of the wall is completed, which may be 10 ft. high. Partition walls are usually made 1 ft. thick; the door and window openings are strengthened by a row of bricks. After the walls have hardened a little, the roof is built in the usual way and thatched, and the external face of the walls may be plastered. It is stated that the walls become in time as hard as stone,

and that buildings of this class have lasted 100 years. The author recommends that this method of building should be revived, as it would save all the fuel now consumed in the baking of bricks and tiles and the manufacture of steel for constructional purposes. Germany, it appears, can still supply herself with timber owing to the careful study which has been given to forestry for many years past.

Mr. A. Goddard, secretary of the Surveyors' Institution, has addressed the following circular letter to the members:—"A conference of representatives of the Auctioneers' and Estates Agents' Institute and of the Surveyors' Institution has recently been held to consider a practice, which appears to be gaining ground, of clients or their solicitors instructing several agents, laying it down as a condition that, in the event of a sale or letting resulting, only one commission shall be payable, leaving it to the agents to settle among themselves the allocation of the commission in the event of any dispute arising. The Council of each professional body deprecate the acceptance of instructions upon any such condition. They are distinctly of opinion that it is against the interest both of clients and of the profession, and that where the former desire to safeguard themselves against any possibility of becoming liable for more than one commission, the proper course for them to pursue is to instruct one agent only, leaving that agent to arrange with other agents to co-operate with him. The principle upon which the Councils, both of the Auctioneers' and Estate Agents' Institute, and the Surveyors' Institution lay stress is that the question of commission lies only between the agents and those instructing them." The definition of the principle is, in our opinion, timely and judicious.

Though some thirty years have passed since it was introduced and gradually made compulsory, most people will agree that the perfect type of water-waste preventer for closets has yet to be invented. Complaints are rife as to the insufficiency of many, not always where the waste-preventer itself is of an obsolete type, but owing to other evils which aggravate its defects. The sewage from many districts is very concentrated and foul, and the sewers not self-cleansing, whilst the trouble from stoppages of waste-water closets has been probably the greatest, and continues to be a most serious one. At Accrington, the surveyor reports, the most common nuisances are in connection with such closets, the number of blocked waste-water closets and drains opened by corporation workmen in the year amounting to 1,459. The proportion of waste-water closets at Accrington is heavy, viz., 9,246, against 1,270 fresh-water closets, and 977 pail closets. The corporation are getting them converted into fresh-water closets as fast as they can, and ere many years pass other local authorities will probably follow suit.

We are glad that the promoters of the James Watt Centenary celebrations at Birmingham, which take place on the 16th, 17th, and 18th inst., have found it impossible to remove the garret in which Watt worked to a central point of the city where it would have been a mere side-show for silly people to stare at the great inventor's tools and lathes, the uses of many of which not one in a hundred would have understood. However, those who take part in the celebrations will be given the opportunity, if they care to take advantage of it, of seeing (but not touching) the objects in the garret. The owner has given permission to enter and view the articles, and many will, no doubt, take advantage of the opportunity, which may not again recur for a considerable time to come. As most readers know, we are no sticklers for the preservation of ancient buildings whose only claims there-to are their ruinous cumbrance of the ground, and their outgrowth of any possible use or interest. But the associations of any building in which the really great men and women of England have lived and worked are too real to permit its removal for mere purposes of exhibition.

ECONOMIC FARM BUILDINGS.

In these palmy days for officials and their hordes of extravagantly-paid underlings, when the seemingly sole concern of the irresponsible oligarchy which has superseded Parliamentary control, to be followed presently, if Lord Fisher is to be believed, by short-lived Republics, possibly with Mr. Lloyd George as President of the first one, seems to be the lavish dispersal of millions wrung from the taxpayer, one wonders why the indispensable factor in the production of food, the primal necessity of life, has not been recognised as a reasonable claimant for State aid, concurrently with, if, indeed, not before, the provision of State-built houses. Possibly it is because the Premier and Dr. Addison are a little nervous about the ghastly failure of the Insurance Act, which has benefited nobody, and added eleven millions to the taxpayers' burden; or are still congratulating themselves that comparatively few people, as yet, realise the still heavier incidence of that last straw on the camel's back, the Housing Act, under which, if rentals of twenty-eight shillings a week are to be wrung from the waiting tenants for the dwellings which are being erected before half these houses are finished we shall have strikes all over the country against such impossible rents, and the taxpayer and the ratepayer will be called on to find out of their moderate fixed incomes the awful deficit from the piling up of which they will have never derived the slightest benefit.

Possibly it is better that the farmer, badly as he needs help as regards the provision of better farm buildings, well as he has responded to the national call for food, should not be left to Government for the better construction and equipment of his food factory—the farm. Certainly it is time that he and those jointly active with him should have recognised its need. He, however, and by this time others as well, must have begun to note the beneficial private enterprise with which most manufacturers of almost all artificial foods have provided really well-arranged and equipped factories, where

with the least unprofitable labour the best guarantees are given of purity of manufacture and economical production. Results thus obtained contrast with those obtained on the badly-planned farms which make up the majority of farm-holdings in modern England.

One of the chief causes is certainly the lack of really good models and practical suggestions. There have been, it is true, attempts during the past thirty years by means of competitions and other schemes for furnishing the farmer or his landlord with plans and suggestions for starting or remodelling modern farms and farm buildings by certain agricultural organisations and by others, but little or nothing has been done to establish a system of design which can be applied not merely to the planning of homesteads for holdings of all descriptions, but also to the remodelling of old ones, nondescript in character and waste ful of capital.

One of the best books of the kind we have seen is that issued under the title of the above heading by Mr. Charles P. Lawrence, F.S.I., and published at 10s. 6d. by the Library Press, Ltd., 26, Portugal Street, W.C. It is the fruit of evidently long experience, and should be carefully studied by all who have to build or reorganise farms, and by those who have to run them. From an embryo homestead, the rudimentary combination of barn and cattle-shed, the author demonstrates clearly and concisely a system of development in which the all-important questions of sanitation as affecting the health of animals, convenience of working in the interests of the farmer, and economy in design in regard to initial cost and maintenance of structures, are fully considered in their relation to each other. Moreover, varied agricultural practice is allowed for. The fact that agricultural practice varies in different parts of the country necessitates something more than a general treatment of the subject of design. The differences of custom in the matter of the housing of livestock, etc., are therefore fully dealt with and illustrated by means of alternative designs of homesteads; and the application of the same economic principles to the peculiar circumstances of hill farm homesteads is demonstrated in like manner.

It is probably true, as Sir Thomas Middleton points out in his brief but pithy introductory note, that landlords and agents alike will probably endeavour to limit new work and to delay alterations on the plea of high building cost, but, as he reminds them, any such increase is at least equalled by the rise in the farmer's wages bill, and nearly equalled by the increased cost of manures and feeding stuffs; that high wages will not secure efficient labour if the living accommodation is unsatisfactory, and that waste of manure, which always results from bad buildings, will be more ruinous than ever. Most certainly, badly-planned sheds and stalls will involve waste of labour that will cause double the loss of money that it did before 1914. In his opening chapter Mr. Lawrence further emphasises these facts, and very rightly insists that "economic" does not merely mean "cheap." Economy of design, of course, is cheap in the long run, ensuring, as it does, suitability of each structure for its purpose, convenient arrangement for economic working, and economy of initial cost and future maintenance—all perfectly supplemented by a well-balanced, compact, and good appearance. These advantages the farmer, who to-day is expected to exert himself to the utmost to fill the breach in the national food

supply that never should have been allowed to widen, has a right to demand, and landlords will do well to respond. We can suggest no better source of advice than Mr. Lawrence's book, and we are sure that the architects and builders they engage will equally benefit by its perusal, and that it will be found, as regards that section dealing with actual construction, that the author leaves the beaten track when, instead of presenting the usual textbook technique, he specialises in the class of work most suitable for farm structures, supplying in most convenient form just the information and detail which the professional man requires in practice. Many practical hints culled from a wide experience of the trades greatly enhance the value of the book as a work of reference. It is also well illustrated, and an appendix contains a very useful form of contract and specification.

Our Illustrations.

SOUTH PORCH, NOTRE DAME, LOUVIERS, FRANCE.

This town, now of little commercial importance, possesses many old timber buildings and a rich Gothic church dedicated to Notre Dame. Its chief glory is the flamboyant south porch, with its beautiful detail of the XV. century in which its architecture reaches its apotheosis. The nave is of great height and noted for some fine stained glass. The double chapel at the end of the two right side aisles has a central pillar bearing the statue of St. Hubert with his legendary stag. Life-size figures also adorn the south sepulchre. Our illustration is reproduced from a clever water-colour shown at the City Art Gallery, Guildhall, by Mr. Barry Pittar, A.R.B.A., in the exhibition of the Royal Society of British Artists.

A WAR MEMORIAL IN MARBLE AND BRONZE—CHURCH, WARGRAVE-ON-THAMES.

This work, designed and executed by Mr. W. Reynolds-Stephens, is exhibited by a photograph here reproduced at the Victoria and Albert Museum War Memorials collection, and was shown by a working model at the Royal Academy this season. Grey-black marble is used, with Greek marble name panel, the tablet being set upon a stone slab. The St. George triumphant, the portrait medallion, and the moulding round the inscription field, is in metal gilt. The coat of arms is carved and emblazoned.

NEW PREMISES, OXFORD STREET, AT CORNER OF STRATFORD PLACE, W.

This work is now about to proceed after great delay owing to the war. The question as to how the rebuilding should be done has been the cause of some controversy. Originally it was proposed to make the new building to match as far as possible the London County and Westminster Bank on the opposite side of Stratford Place, but a strongly expressed opinion from residents and others led to the design being made as illustrated, following as closely as possible the original work. The drawing reproduced was exhibited at the Royal Academy this summer. Mr. Arthur Sykes, F.R.I.B.A., of Finsbury Pavement, E.C., is the architect.

WAR MEMORIAL—LYCH GATE, GUISELEY CHURCH, YORKS.

This lych gate will be erected at the north-west entrance of the churchyard, marking the approach to the old burial

ground. It is designed in harmony with the old work of the district. The material is to be of Guiseley stone, with stone slate roof. The inner walls will give space for the 110 names of Guiseley men who have fallen, and these will be cut in slate slabs. A general restoration of the church was carried out under Sir Charles Nicholson some twelve years ago.

FUEL ECONOMY AND THE FUTURE STANDARDS OF PUBLIC GAS SUPPLIES.

From the valuable Second Report of the Committee appointed by the British Association for the Advancement of Science, which was presented at the meeting at Bournemouth, we give the following which deals more especially with gas supply and consumption; and which, especially at the present time, should be carefully studied by all of us concerned with gas installations, either instead of, or supplementary to, other means of lighting and heating.

The committee has had under consideration the report issued on January 29, 1919 (Parliamentary Paper, Cmd. 108) by the Fuel Research Board in reply to the inquiry of the Board of Trade as to "What is the most suitable composition and quality of gas and the minimum pressure at which it should be generally supplied, having regard to the desirability of economy in the use of coal, the adequate recovery of by-products, and the purposes for which gas is now used."

Recognising that the said report opened up important and far-reaching questions of public policy with regard to the manufacture and distribution of town's gas, the Executive referred the whole matter for detailed consideration to a sub-committee consisting of Sir Robert Hadfield, Professor Bone, Dr. J. E. Stead, Messrs. A. H. Barker, E. Bury, E. V. Evans, D. H. Helps, D. V. Hollingworth, A. Hutchinson, R. Mond, W. H. Patchell, and H. James Yates.

This sub-committee having reported that it had arrived, by an eight to one majority, at the conclusions embodied in the following numbered paragraphs, they were formally adopted by the committee as a whole, and ordered to be incorporated in the report as the findings of the committee on the subject.

(1) The chief recommendations made by the Fuel Research Board embody substantially the following propositions:—

"(a) That the consumer shall in future be charged according to the thermal units in the gas actually received by him, just as a consumer of electricity is charged for the Board of Trade units which have passed through his meter.

"(b) That, subject to a maximum limit of 12 per cent. of inert constituents, and of its undertaking to adjust consumers' lighting, heating, and cooking appliances so that the gas can be burnt in them with both safety and efficiency, the gas undertaking shall be at liberty to fix the calorific value of the gas it supplies to its customers, although in the common interests of producers and consumers it is suggested that burners should be standardised for a limited number of calorific values of gas of which (it is suggested) four grades may be sufficient, namely, 400, 435, 466 and 500 B.Th.U.s. per cubic foot.

"(c) That every supply district above a certain magnitude ought to be provided with one or more gas examiners and, if necessary, a staff of inspectors, whose whole time should be devoted to looking after the interests of gas consumers, and that the smaller supply centres should be grouped into districts for such purposes.

"(d) That, provided customers' appliances are properly adjusted to the grade of gas supplied, it may be tentatively accepted that the relative values of different grades of gas are strictly proportional to their calorific values. Thus, for example, 'the relative values to the consumer of gases of 500 and 400 B.Th.U.s. could be taken as exactly in that ratio.'

"(e) That there shall be more complete

removal of sulphur and cyanogen compounds from the gas.

"(f) That, under normal conditions of supply and equipment, there shall be a pressure of not less than two inches of water in the gas at the exit of the consumer's meter."

(2) With regard to these recommendations, the committee generally agrees that, provided (a) that simple and effective means or apparatus could be devised, and put in general operation, for determining the heat units actually received by each individual gas consumer throughout the Kingdom, and (b) that certain other conditions (hereinafter set forth) were assured, it would be more equitable to charge the consumer on a basis of "heat units" than on one of "cubic feet" supplied.

(3) The committee also agrees generally with the Fuel Research Board's recommendations as to (a) the maximum limit of 12 per cent. of inert constituents, and (b) the minimum pressure of two inches of water in the gas at the exit of the consumer's meter.

(4) The committee considers that it should be the aim of any national policy in regard to gas standards to ensure (a) to the consumer, and especially to the domestic consumer, a supply of gas suitable to his requirements at the lowest cost consistent with reasonable safety, and (b) to the community at large, as great a recovery of valuable by-products in the carbonising process as is consistent with the production of a reasonably safe and usable gas. It certainly ought not to exclude the possibility of (a) distributing through the public mains surplus coke-oven gas or (b) securing, to a safe and reasonable degree, the advantages in regard to reduced costs of production accruing from the modern practice of steaming the incandescent coke produced by carbonising coal in vertical retorts on the continuous system. It by no means necessarily follows, however, that a gas undertaking ought to convert all its coke into water gas, as some of them apparently would like to do. It might conceivably be better policy to require gas undertakings, or at least some of them, to produce and supply the community with (a) a straight coal gas obtained simply by carbonising the coal, and (b) a free-burning coke, or semi-coke, fit for consumption in domestic grates.

(5) From information supplied to the committee it would appear that, with regard to the quality of the gas generally supplied to consumers in days immediately preceding the war, the following figures may be quoted for the average gross calorific values, per cubic foot at 60° Fahr. and 30 in. barometer, of the gas supplied during the year 1915 in six of the largest cities of Great Britain:—

620, 596, 593, 582, 580 and 540 B.Th.U.s.

Whilst it may be freely admitted that calorific value, although always an important one, is by no means the only factor to be considered in selecting a gaseous fuel for any particular purpose, the committee is of the opinion that the proposal of the Fuel Research Board that in future gas undertakings may be allowed to supply, at their sole discretion, gas of any calorific value between 400 and 500 B.Th.U.s., ought to be very carefully scrutinised in all its bearings, especially as it involves a considerable dilution of the old "coal gas" by "water gas," with consequent much higher carbonic oxide and lower methane contents. Indeed, the Fuel Research Board holds that "the natural diluent for coal gas is water gas, made either from coke in a separate producer, or in retorts by steaming the hot coke."

(6) The composition of the gas obtainable by carbonising British gas coals at high temperatures either in modern vertical retorts or coke ovens, without steaming the charge, usually varies between the following limits, approximately:—

2CO ₂	CO	CnHm	CH ₄	H ₂	N ₂
to 3, 5 to 10,	2 to 4,	25 to 35,	45 to 55,	5 to 10 p.c.	
Approx. Mean					
2.5	7.5	3.0	30.0	50.0	7.0

The calorific value of a gas of the mean composition indicated would be about 560 gross

and 495 net B.Th.U's. per cubic foot at 60° F. and 30 in. barometer. The corresponding values for a "debenzoholised" coke-oven gas, containing only 25 per cent. of methane, would be about 485 gross and 425 net. And inasmuch as the thermal efficiency of such carbonisation processes is admittedly high,* there would appear to be no particular reason, on the ground merely of thermal efficiency, for seeking to supersede the 1913 practice. The plea for the change is presumably based on the desire, on the part of gas undertakings to convert a substantial part (or possibly the whole) of the coke into water gas, and thus to increase the gas make per ton of coal at a corresponding sacrifice of the coke-yield.

(7) Water gas may be generated from coke with a thermal efficiency of (up to) 70 per cent.; it contains on an average:—

CO ₂	CO	H ₂	CH ₄	N ₂
4.5	43.0	48.0	0.5	4.0 per cent.

Its calorific values per cubic foot at 60° F. and 30 in. barometer are approximately 300 B.Th.U's. gross, and 275 net, or rather more than half those of the "straight" coal gas already referred to. Its calorific intensity, however, is distinctly higher, but its range of inflammability with air considerably wider, than that of coal gas. Its high carbonic oxide content makes it a poisonous gas, and, owing to its high hydrogen and low methane contents, its mixtures with air are very liable to backfire. For these reasons it is not a desirable gas for domestic uses unless largely diluted; and any large admixture of it with coal gas in public supplies would undoubtedly add materially to the dangers of carbonic oxide poisoning and of gas explosions in houses.

(8) With regard to the question of the dangers of carbonic oxide poisoning with a gas containing a large proportion of water gas, it may be recalled that twenty years ago this was the subject of an official inquiry by a committee appointed by the Home Office, of which Dr. J. S. Haldane and the late Sir William Ramsay were members. They had laid before them detailed information as to the uses of water gas in the United States and its effect upon human health. In their report (C. 9164 of 1899) they stated:—

"The most direct and, in our opinion, the only effective method of preventing danger from water gas is to fix a limit which the carbonic oxide in a public and domestic gas supply shall not, in ordinary circumstances, exceed. It is difficult to assign a limit applicable to all circumstances. In some cases 12 per cent. of carbonic oxide in the gas supplied might be proper, in others 16, or perhaps 20. . . . We are of opinion that with the present conditions of gas supply 20 per cent. is the highest proportion of carbonic oxide that should be allowed, and that this percentage should be used only under special circumstances. . . . Our attention has been called by several witnesses to the very imperfect and unsatisfactory gas fittings often used in the poorer class of houses in large towns, and the constant leakages which exist without any attempt to discover or rectify them. . . ."

Clearly, then, the 1899 committee, having in mind the nature of carbonic oxide poisoning and the faulty character of gas pipes and fittings in the poorer class of houses, considered that the carbonic oxide content of a public gas supply should in no circumstances be allowed to exceed 20 per cent., and only exceptionally 16 per cent. This committee considers that even to-day a maximum limit of 20 per cent. of carbonic oxide ought not to be exceeded. It may be pointed out that the Fuel Research Board's recommendations would allow of a gas company distributing a 40 per cent. coal gas plus 60 per cent. water-gas mixture containing between 27.5 and 30.0 per cent. of carbonic oxide.

(9) The committee is unable to agree with the Fuel Research Board's apparent endorsement of the proposition that the relative values of different grades of gases are strictly

proportional to their calorific values. On the contrary, they are of the opinion that the chemical composition of the gas is not a matter of indifference to the consumer, and that the cumulative results of forty years of scientific research on the subject prove that the fundamental properties of the explosive mixtures formed by different combustible gases with air, arising from their own peculiar chemical characters and modes of combustion, do affect profoundly their uses for power and heating purposes.

(10) It appears to the committee that, in particular, the Board's report does not recognise sufficiently the importance of methane as a constituent of a public gas supply. Owing to the relatively narrow range of explosibility of its mixtures with air, and the low speeds at which flame is propagated through them, methane (in addition to the advantages of its high concentration of potential heat units) as a constituent has an important "steady" influence upon coal gas, rendering it eminently usable for domestic purposes. Hitherto the public has been accustomed to using a gas containing 30 per cent. or more of methane, and it is important that such proportions shall not be unduly diminished. Accordingly the committee would urge the adoption of 20 per cent. as a minimum methane content in a public gas supply intended for domestic consumption.

(11) If the committee's proposals in the preceding paragraphs be adopted as safe and reasonable in the interests of domestic consumers, the gas might be sold (as proposed by the Board) on a thermal basis, subject to the following provisos:—

(a) that its methane content shall not be less than 20 per cent., its carbonic oxide content not more than 20 per cent., and its content of "inerts" not more than 12 per cent.

(b) that its gross calorific value per cubic foot at 60° Fahr. and 30 in. barometer shall not fall below 450 B.Th.U's.

Within such limits a gas undertaking would be at liberty to supply for domestic use either (a) "straight" coal gas, (b) "debenzoholised" coke-oven gas, or (c) a mixture of 100 parts of coal gas with (up to) 50 parts of blue water gas. Where, however, gas is supplied in bulk for industrial uses only, a relaxation in the above conditions might be permitted subject to agreement as regards cost between gas undertakings and the consumers.

(12) In conclusion, the committee hopes that scientific men generally will strongly support the important recommendation made in paragraph 53 of the Board's Report in regard to sulphur purification. The Board rightly urges "the more complete removal not only of the sulphur compounds but also of the cyanogen compounds." The important investigations carried out, from 1905 onwards, at the South Metropolitan Gas Works by Dr. Charles Carpenter, in conjunction with Messrs. E. V. Evans and Doig Gibb, resulting as they did in a process whereby the sulphur content of the gas sent out from these works has been reduced from 40 to about 8 grains per 100 cubic feet, constitute so notable an advance in the technology of gas purification that the time has surely come for legislative action in the direction of making such sulphur removal generally compulsory for all large gas undertakings.

Mr. D. H. Helps, representing the Institution of Gas Engineers on the Committee, dissented from certain of the foregoing conclusions on the grounds that if in future the consumer is charged for gas according to the number of heat units supplied to him in it, it will not be necessary to impose upon gas undertakings the restrictions in regard to inert constituents which the Committee has recommended. He was also opposed to the suggested limitation in regard to the carbonic oxide content, as well as to any re-imposition of the obligation upon gas undertakings to remove sulphur impurities other than sulphuretted hydrogen from the gas; and in regard to the question of pressure he was of opinion that a minimum of 1½ inch water gauge would be found sufficient.

During the discussions which took place upon the question of gas standards, the

attention of the Committee was called to what is known as the "stripping of coal gas," by which is meant the extraction of benzenoid hydrocarbons from it. This process has been instituted as a war measure in view of the necessity for providing sufficient raw material for the manufacture of high explosives.

It was pointed out to the Committee, however, that with gas selling at its present average price it would probably be of greater financial advantage to the gas undertakings to allow the benzenoid hydrocarbons to remain in the gas if the sale of gas on the proposed new thermal basis is instituted. Though fully realising the present national shortage of motor spirit, the Committee felt that gas undertakings should be under no obligation to remove benzenoid hydrocarbons unless the selling price of motor spirit would justify their doing so on financial grounds.

RATIONAL MANUFACTURE OF CLAY BRICKS.

This article is a *resumé*, by the *Technical Review*, of a recent publication by Capt. Wattebled, of the Ceramic Products Committee of the French Ministry of Munitions, in the *Bull. de la Société d'Encouragement pour l'Industrie Nationale*, Jan.-Feb., 1919, and *L'Industria*, July 15, 1919. According to him, it is absolutely necessary to use mechanical methods for extracting the clay and mixing the materials; and, as regards baking, the most modern types of kiln should be adopted, as they secure economy of fuel, great regularity of products and, consequently, a diminution of rejects.

By adopting the systems suggested, the unit production is estimated at some 25,000 bricks a day, or 7.8 million per annum, working continuously summer and winter. A brick-works may comprise a certain number of units. A steam engine is employed, and its power may be calculated on a basis of a fuel consumption of 50-60 kg. for every 1,000 bricks produced.

The clay is extracted by small excavators and loaded on to small Decauville trucks or wire-rope-way bogies and transported to the machines.

In order better to make use of gravity in the successive operations and during transport from one machine to another, the clay, etc., when it arrives at the yard, is raised either on an inclined plane or a hoist to a first storey, where it is allowed to drop into a hopper or automatic distributor, which enables it to be mixed easily with other materials, e.g., sand. The mixture so obtained then passes into a mill having vertical crushers, suitably fed with water, after which it passes to the kneading cylinders, which reduce it to a homogeneous paste; thence to a die press, from which the paste issues in the form of a continuous prism having the sectional shape of the finished brick.

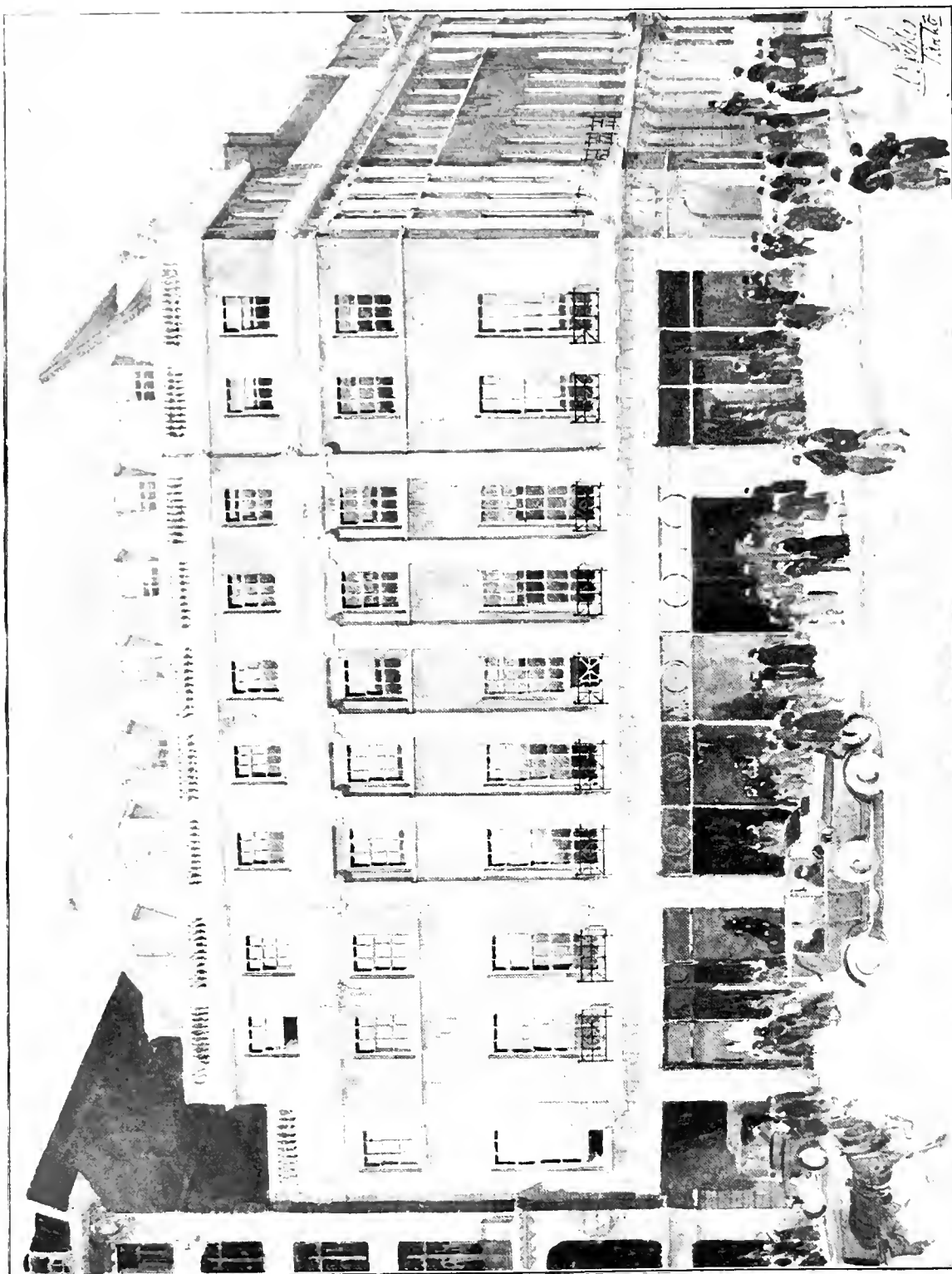
The crude bricks are then passed to the drying chambers of modern type. These chambers are constructed of bricks. They form a number of long and narrow compartments, each traversed by a Decauville track. Each truck has an arrangement of racks at the side in which the bricks are placed, the racks being tipped into the drying chambers by simply depressing a lever. When dried, the bricks are put (still in the racks) on to the bogies and taken direct to the kilns.

The kiln recommended by Capt. Wattebled is the zig-zag type, which has numerous advantages not possessed by the Hoffmann and other designs.

The equipment of a complete works on the lines described, capable of producing 56,000 bricks a day for 300 days in the year, is estimated to cost 600,000 francs.

On Sunday week Cardinal Logue laid the foundation stone of a new memorial church at Blackrock (Co. Louth), which is to be erected in memory of Oliver Plunkett. The architects are Messrs. W. H. Byrne and Son, M.R.I.A.I., Suffolk Street, Dublin, and the builder for the first contract is Mr. James M. Mooney, Dundalk.

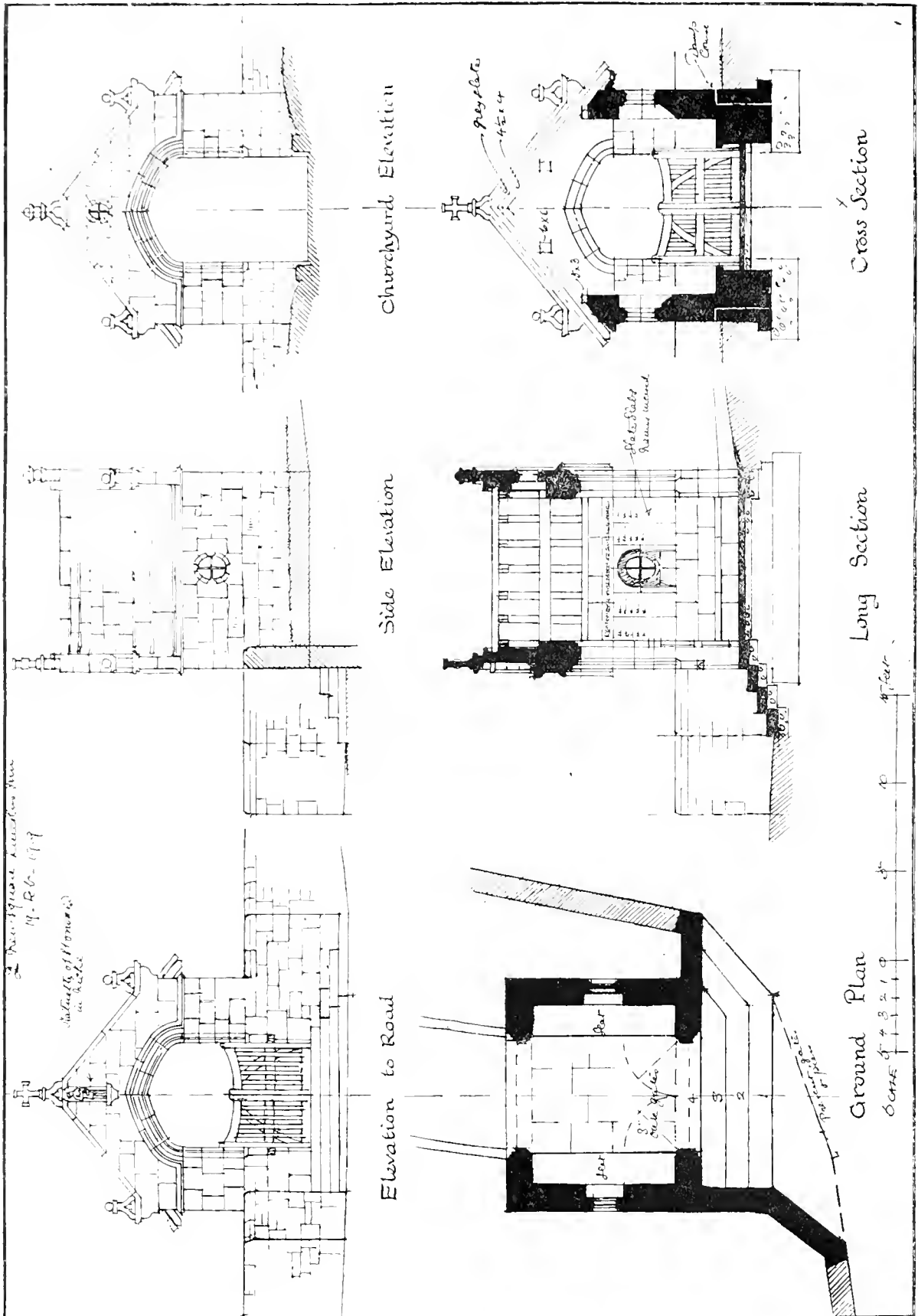
* It has recently been shewn that the two Metropolitan Gas Companies in the year 1913 actually sent out in the form of gas, coke, and tar, rather more than 70 per cent. of the potential energy of the coal carbonised, and that over-all efficiencies exceeding 82 per cent. have been attained in large-scale carbonising plants.



NEW PREMISES IN ONFORD STREET AT CORNER OF STRATFORD PLACE, W.

MR. ARTHUR SYKES, F.R.I.B.A., ARCHITECT.





WAR MEMORIAL LYCHGATE AT GUISELEY, YORKSHIRE.
 Sir CHARLES A. NICHOLSON, Bart., M.A. Oxon., F.R.I.B.A., Architect.

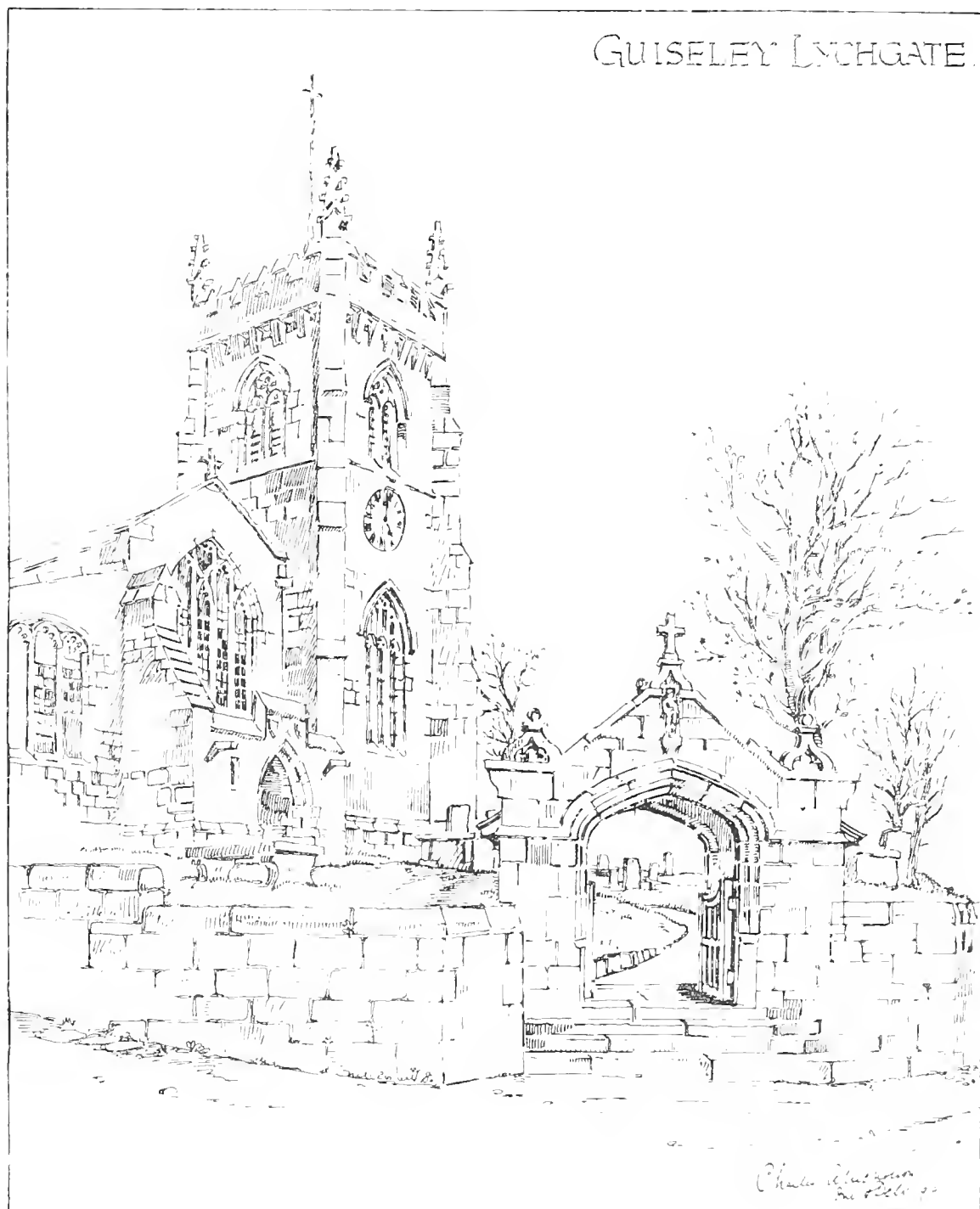
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THE BUILDING NEWS, SEPTEMBER 12, 1919





SOUTH PORCH, NOTRE DAME, LOUVIERS, FRANCE. - From a Water-Colour Drawing by Mr. BARRY PILLAR. A.R.B.A.
Exhibited at the City Art Gallery, Guildhall, E.C.



WAR MEMORIAL Lychgate, GUISELEY, YORKS.

SIR CHARLES A. NICHOLSON, Bart., M.A., Architect.



A WAR MEMORIAL IN MARBLE AND BRONZE AT WARGRAVE-ON-THAMES CHURCH.
Mr. W. REYNOLDS-STEPHENS, Sculptor.

CONVERSION OF HOUSES INTO FLATS.

The Ministry of Health have issued, for the instruction of local authorities, the manual on the conversion of houses into flats for the working classes, which was promised by Major Astor in the House of Commons on July 21. The new Housing Act gives local authorities the power to acquire suitable houses and convert them into flats, and while the Ministry are anxious that local authorities should not in any way relax their efforts to hasten the erection of new houses, they think such efforts should be supplemented by these powers of conversion in order to secure as great an increase in the amount of accommodation as is possible before next winter.

The owner of a house may desire to undertake its conversion himself, and, in such a case, the Housing Act enables the local authority to lend the whole or a part of the money necessary to defray the cost, though the loan must not exceed one-half the estimated value of the property. The manual indicates the procedure which will be adopted in such cases. It is suggested that the rate of interest to be charged to the owner should be $\frac{1}{2}$ per cent. above the rate at which the local authority can borrow, and the Ministry are of opinion that repayment should be required not less frequently than every half-year.

When houses which could be converted into working-class tenements are available, but no proposals for conversion are made by the owners, the Ministry urge upon local authorities the advisability of exercising their new powers of acquiring houses themselves, either by agreement or compulsory purchase, and converting them into flats. The manual points out that the local authority, by reason of their local knowledge, will usually be in a position to judge whether a particular property is suitable for conversion. It is not practicable to lay down rules for their guidance, but the widest scope for the operation of a scheme of this kind will probably be found in districts which consist mainly of large houses for which the demand has fallen away owing to changes in the character of the neighbourhood. It is not suggested that a local authority should seek to acquire empty houses indiscriminately, and the manual points out that it would be undesirable to acquire an individual house which happened to fall empty in a neighbourhood in which similar houses continue to let without difficulty. The manual points out that the local authority should not limit inquiry to large houses, terrace houses when taken in groups of two or more being capable of conversion into convenient flats with one common staircase.

The construction of the houses is a matter which will require careful consideration, and those houses which can be converted with a minimum of cost are to be preferred. The total cost of the acquisition and conversion should be very substantially less than the cost of the provision of an equal number of new houses. The manual concludes with an outline of the procedure to be followed, first in acquisition by agreement, and next in acquisition by compulsory purchase.

A great fire in the timber and sawmills at Maimaxi Island, near Archangel, has caused damage estimated at 60,000,000 roubles (£6,000,000 at pre-war rates). The insurance falls chiefly on British companies.

The Dean of Peterborough informs us that it has been unanimously resolved by the executive members of the Peterborough Cathedral Restoration Committee that the work of restoration, which has been almost entirely suspended for a good many years, should now be resumed and completed as was originally intended, or as skilled advice and new needs may determine.

The house in which Cowper lived for nineteen years was in 1900 presented to the town of Olney by the late Mr. William Hill Colclingridge. The adjoining garden, in which stands the poet's summer-house, has been in the possession of a private owner for many years, and only now has the opportunity of purchase occurred. The public opening of the summer-house and garden will take place on Friday, September 19.

WAGES IN THE BUILDING TRADE—LONDON.

As a result of representations which have been made to him by the London Master Builders and Aircraft Industries Association, and the National Federation of Building Trade Operatives, under the Wages (Temporary Regulation) Acts, 1918-19, for the extension by order making the following agreements binding in the London district, the Minister of Labour intends to seek the advice of the Interim Court of Arbitration in accordance with Section 2 sub-section 3 of the Wages Acts, whether he shall by order direct that the determination or variation affected by the agreements shall be binding on all workmen to whom the prescribed rate or rates in question are applicable, and the employers of those workmen:—

1. An agreement of 17th January, 1919, approved by the Minister of Labour in February, 1919.

2. An agreement of 1st April, 1919, approved by the Minister of Labour 2nd May, 1919. Amended by the National Board of Conciliation on 3rd June.

3. An agreement in respect of Scaffolders' rate of wages, approved by the Minister of Labour on 28th June, 1919.

The Court will wish to be guided by advice and information from representative bodies of employers and workpeople. The Employers' Associations and the Union concerned will be notified by letter, but in order that all those who could rightly claim to be interested in this question may be aware of what is being done, this notice is issued.

The Court propose that the hearing of the case shall take place at 5, Old Palace Yard, London, S.W.1, on Thursday, 18th September, at 10.30 a.m. when parties wishing to be represented should arrange for their representatives to be in attendance.

ROYAL ACADEMY LECTURES.

The following are the lectures at the Royal Academy during the coming season, 1919-20:—

ANATOMY—ARTHUR THOMSON, F.R.C.S., D.C.L.
Professor of Anatomy in the Royal Academy.

At 4.30 p.m.

1. Friday, Oct. 3

Introductory. The Influence of Posture on Man's Skeleton, and the Characteristic Features thereby induced.

2. Wednesday, Oct. 8

3. Friday, Oct. 10

4. Wednesday, Oct. 15

The Bones and Muscles of the Trunk, and their Relation to the Surface Forms.

5. Friday, Oct. 17

6. Wednesday, Oct. 22

7. Friday, Oct. 24

The Upper Limb: Its Connection with the Trunk. The Surface Forms dependent on its Structure in Action and Repose.

8. Wednesday, Oct. 29

9. Friday, Oct. 31

10. Wednesday, Nov. 5

The Lower Limb, similarly treated.

A Rapid Survey of the Head and Neck.

CHEMISTRY.—A. P. LAURIE, Esq., D.Sc.

Professor of Chemistry in the Royal Academy.

At 4 p.m.

1. Wednesday, Nov. 12

16th Century Methods of Painting as illustrated by the Rokeby "Venus," and the 16th Century panel of the "Madonna di Loreto."

2. Friday, Nov. 14

3. Monday, Nov. 17

4. Wednesday, Nov. 19

Modern Pigments: their proper Selection and Use. Methods of Wall Painting. Media, Oils, Varnishes, Tempera.

5. Friday, Nov. 21

6. Monday, Nov. 24

The Theory of Colour and its Application to Painting.

The Chemistry of Building Materials—Stone, Mortar, Cements, Concrete, Stone Preservation.

Mr. Thomas Dinham Atkinson, having been appointed surveyor to Winchester Cathedral and College, has taken into partnership Captain Charles William Long (General List, late London Rifle Brigade), who will now be the Cambridge representative of the firm, as Mr. Atkinson holds the appointment of surveyor to the Dean and Chapter of Ely. The business will be carried on at 24, Bloomsbury Square, London; 11, Southgate Street, Winchester; and 4, Trumpington Street, Cambridge.

THE GREAT SELFRIDGE TOWER.

Mr. Gordon Selfridge is extending his great store in Oxford Street, more than doubling its size. The present facade, with its great row of columns and strong cornice, will be carried along the whole way from Duke Street to Orchard Street, giving a length of 516 feet, thus making one of the longest fronts architecturally treated in London. The site is rectangular, with the back to Somerset Street, that is now being demolished.

There will be many new features, including a big ornamental court, under glass in the central courtyard, but the feature of most interest is the tall observation tower that will take an important part in the skyline of London. Sculpture forms a notable side of the scheme. Mr. Selfridge informed a correspondent of the *Manchester Guardian* that it will be higher than St. Paul's, and that rises 370 feet above the street. Sir James Burnet will be responsible for the extensions in conjunction with Messrs. Graham Anderson, Brobst, and White, the Chicago architects, who have designed many great stores. Mr. Selfridge explained that his dream was to create a building that would express in the most dignified and elegant way the greatness of commercial business.

In the course of the conversation Mr. Gordon Selfridge gave his interviewer some of his ideas about the place of commercial architecture. "There are four great departments of architecture," he said—"civic, ecclesiastical, domestic, and commercial,—and the fourth is the special development of our times. The needs of commerce are always changing and increasing, demanding new expression in the edifices that are erected to meet them. Also the business man in modern times is the man who has the money and can follow his own ideals in the matter. He has a freer hand than other people, and can usually decide things without committees. If he is fired with the idea to give his business a beautiful and dignified expression he can do so."

Mr. Selfridge pointed out that a great modern store should be as dignified and important to the public life as a great civic building. Its exterior is seen by millions and may give them ideas and pleasure, and its elegant decorations and lucid arrangements in the interior may serve as a model and example. He had given much thought to architecture, and had chosen the classic, with a touch of French Renaissance, as it gave dignity and space, good lighting, and good shadow. There could be no new kind of architecture for commerce—you might as well ask for a new kind of multiplication table. But you could adapt and develop great styles of the past for the needs and ideals of modern business.

OBITUARY.

Mr. Edwin D. Sachs, F.R.S.E., F.R.G.S., died in London on Tuesday last, after a long illness, in his fiftieth year. Educated at University College School, London, Mr. Sachs made a study of the practical side of fire protection, especially as affecting the theatre. He first practised in London as an architect in 1892, and applied electrical power to the working of the stage for the first time in England. The system of stage mechanism known as the "Sachs system" was adopted at the Covent Garden Opera House, and, to a certain extent, at the Theatre Royal, Drury Lane. In 1897 Mr. Sachs founded the British Fire Prevention Committee, and two years later the first fire-testing station in Europe. He also acted as vice-president of the International Fire Exhibition at Earl's Court, and organised the first Fire Prevention Congress, which met in London in 1903. During the war he served as Commissioner of the Special Fire Survey Force, which he himself organised, and as member of the Home Office Departmental Committee on Celluloid Dangers. He was also vice-president of the International Fire Service Council. Mr. Sachs was the author of numerous books dealing with stage construction and fire prevention in theatres, of which the best known are "Modern Opera Houses and Theatres," "Facts on Fire Prevention," and "Fires and Public Entertainments."

HEALTH MINISTRY'S HOUSING REPORT.

During the week ended August 30, 161 new schemes were submitted to the Ministry, and 110 schemes were approved by them. The total number of schemes submitted by local authorities and public utility societies is 4,516, comprising approximately 44,000 acres. The total number of schemes approved is 1,419, covering about 18,200 acres.

Several of the schemes submitted or approved during the week were received from local authorities in mining districts, or in the neighbourhood. The largest scheme of the week was promoted by the Chester-le-Street Rural District Council, and relates to an area sufficient for over 1,500 houses. The Staffordshire, South Wales, and Yorkshire coalfields are also represented in the week's schemes.

Schemes in their later stages are now being submitted in greater numbers. House plans from Nottingham (350 houses), Birmingham (317 houses), Eastbourne (173 houses), Manchester (150 houses), and Croydon (129 houses) were approved during the week. Altogether, plans for 1,916 houses were submitted, and approved for 1,475 houses.

The attention of local authorities has been called by the Ministry to the housing obligations placed on them by Parliament in the new Housing Act, and a short summary of the principal provisions of the Act has been supplied for every member of a local authority. The Act requires each local authority to consider the needs of their district and to prepare and submit a housing scheme by the end of October. Approved schemes which have already been submitted may, if the Ministry think fit, be regarded for the purposes of financial assistance as a contribution towards meeting the requirements of the Act. The majority of the local authorities had in fact submitted schemes before the Act came into force. Information is also to be supplied to the Ministry as to the slum areas which require to be dealt with, and as to insanitary houses in other parts of the district of the local authority.

The Ministry have also indicated to local authorities the lines on which inquiries may be made to ascertain the needs of the district. Various sources of information, both official and unofficial, are suggested, e.g., the Local Food Control Committee and social organisations. Arrangements have also been made for the staff of the Regional Commissioners appointed by the Ministry to give assistance, where it is desired, to local authorities in the carrying out of the survey of their districts and in the preparation of their schemes.

Still the merry game goes on! The Ministry of Labour is carrying out an expensive programme of new buildings for Labour Exchanges, and the Ministry of Pensions is taking over hotels in central sites in big cities and towns to house large staffs.

Two workmen painting the Tower Bridge were thrown into the river last Friday through the breaking or loosening of the ropes supporting the cradle on which they were standing. They were picked up by a passing boatman, and, though hurt, were able to go to their homes.

The erection of a monument at the bridge end of Broad Street as the March War Memorial was decided upon at a public meeting which was held at the Public Hall, March, last week. The committee recommended the erection of a monumental memorial on the quay and the establishment of a town's institute. The latter, however, found no support, the general feeling being that efforts should be concentrated upon a monument.

Mr. Thomas Hardy, O.M., has accepted the invitation of the Wessex Saddleback Pig Society, which has just published the first number of its hand-book, to become its first honorary member. The "saddleback" marking was established on the old English pig long ago in the Isle of Purbeck, and it is indigenous to the New Forest and Wessex. In accepting the membership Mr. Hardy expressed his desire that the society should exercise its influence to ensure the use of the "humane pig-killer," as opposed to the cruel and more cruel processes commonly adopted.

ANCIENT POTTERY THE CLUE TO THE ORIGIN OF AMERICAN AGRICULTURE.

In restoring the early history of agriculture the most important source of information, according to an article by Mr. Herbert J. Spinder, in the *American Museum Journal*, of New York, is archaeological rather than botanical. There are manufactured objects, such as pottery vessels, associated with agriculture or dependent in a general way upon it, and some of these are practically indestructible; whereas plants and seeds survive only under the most exceptional conditions. Earthen bowls are both heavy and fragile, and consequently of little use to wandering peoples. Stationary peoples alone develop pottery, and such peoples are usually on the agricultural plane of life. In America we find that the boundaries of pottery distribution closely parallel the boundaries of agriculture distribution, extending in some regions slightly beyond them. Pottery is made with an infinite variation in form and ornament and has almost the historical value of a written document. Like agriculture, pottery making was independently invented in the New World, along with loom weaving and other high arts, and probably spread outward from a single point of origin.

In the valley of Mexico pottery remains of sharply differing styles have been found in layers one above the other, and it is clear that the lowest layer is historically the earliest. The pottery of this lowest layer shows peculiar features in construction and ornament, and it has been possible to prove by these special features that ceramic art spread from Central America across northern South America to the mouth of the Amazon, and over the mountains of Colombia and Ecuador to the coast of Peru. All the higher civilisations in the New World seem to have risen from the general level of what has been called the "archaic horizon." The trail of pottery of the ancient type marks the first distribution of agriculture.

COMPETITIONS.

BIRMINGHAM.—The plans for the municipal houses to be built on the Oak Tree Lane site have been on view at the Birmingham Council House. The winning designs are sent by Messrs. Ingall, Bridgewater, and Porter; and premiums have also been awarded to Messrs. Crouch, Butler, and Savage; Mr. H. S. Scott; and Mr. E. Berks Norris. Messrs. Ingall, Bridgewater, and Porter's plans provide for houses grouped round three sides of two squares each, having a short drive and turning space. The walls are to be built of bricks, the general facings being of local red bricks, with Black Country facing bricks in particular cases. The internal walls are 4½ ft. thick, with breeze concrete slab partitions between the first floor rooms where not over ground floor walls. The roofs will be of sand-faced tiles. The average cost of these houses is estimated at £754 16s. 11d. According to the specification, Mr. H. S. Scott's estimate of cost is £749 18s. 9d. for the three-bedroom type and £789 17s. 2d. for the four-bedroom type. The houses to be built of local brick, of colours varied for the different blocks of houses so as to secure pleasing variety. A similar effect would be aimed at in the tiled roofs. The houses are grouped around a small green. In their specification Messrs. Crouch, Butler, and Savage say that no spectacular "lay-out" has been attempted, but an effort has been made to produce a nicely grouped plan. The houses would be built of common brick, finished externally with rough cast, and red hand-made tiles would constitute the roof. The cost of the four-bedroom type is estimated at £916, and the three-bedroom type at £832. "Lower prices should apply under more settled conditions," the designers state. To Mr. E. Berks Norris's plans no specifications are attached. Lower prices are quoted for houses according to the plans sent in by Mr. A. J. Dunn, another Birmingham architect. These provide for concrete construction, and Mr. Dunn estimates that he can build these houses at an average cost of £552. If brick construction is adopted the cost would come out at £772.

Mr. Arthur Brown, borough engineer of Nottingham for 39 years, and known as the "Maker of Modern Nottingham," resigned his post last Monday.

PROFESSIONAL AND TRADE SOCIETIES.

ROYAL INSTITUTE OF ARCHITECTS OF IRELAND.—A council meeting of the Royal Institute of the Architects of Ireland was held at 51, South Frederick Street, Dublin, on Monday the 25th ult., the president, Mr. W. Kaye-Parry, F.R.I.A.I., in the chair. There were also present:—Messrs. F. Batchelor, E. Bradbury, F. Hayes, J. H. Webb, R. H. Byrne, A. E. Murray, G. P. Sheridan, and H. Allberry, hon. secretary. The correspondence included a letter from the American Institute of Architects in connection with the architectural competitions; from the Local Government Board on the subject of the recent urban housing competition, and from the Royal Institute of British Architects referring to the organisation of educational meetings relative to housing. The hon. secretary was directed to communicate with the Chief Secretary for Ireland and Dr. Coey Biggar offering the co-operation of the Institute in organising meetings in Ireland. The hon. secretary reported that a circular had been issued to all the local authorities in Ireland on the subject of the employment of competent architects on housing schemes, and also that a letter had been sent, at the request of the Ancient and Historic Buildings Committee, to the Town Clerk of Dublin, calling attention to the desirability of preserving the Weavers' Hall. After a scrutiny of the ballot, the following were declared elected members of the Institute:—Messrs. A. E. Williams, Buncrana; J. J. Bowen, Fermoy; R. G. Hopcroft, C. L. Robinson, W. Morris, and C. A. Ashlin, Dublin. The council considered the supply of materials, standardisation of building details, and the employment of clerks of works and contractors in connection with housing schemes, and it was decided to address the Housing Department of the Local Government Board on the subject. A letter from the Irish National War Memorial was read, and it was decided to approach the committee with a view of holding an open competition amongst Irish architects for the design.

STATUES, MEMORIALS, etc.

ALFORD.—A memorial cross has been dedicated in Alford churchyard to the memory of the slain in the war. The cross, which has cost £320, is of Lincolnshire freestone and consists of three octagonal steps, eleven, seven, and five feet in diameter respectively. On the west side of a rectangular base in relief is a laurel wreath encircling the inscription "To the memory of the men of Alford who gave their lives in the great war, 1914-1919." On the other three sides are engraved their names, 58 in all. The base is surmounted by an octagonal tapering shaft 11 ft. in height, and crowned by the cross, reaching a further 4 ft. On the east front of the cross is carved the figure of the Virgin, crowned and seated, holding in her lap the holy child Jesus; and on the west front appears the figure of our Lord upon the cross. The architect was Mr. J. M. Comper, and the sculptor Mr. W. D. Goffe, of Kennington. The work of erection has been carried out by Mr. A. Wood, of Alford.

CASTLEBAR.—A memorial to the late Most Rev. Dr. Higgins, Bishop of Temno, is about to be erected in Castlebar, from the designs of Mr. R. M. Butler, architect. It will take the form of a large mural tablet in the Renaissance style. The pedimented entablature and frame will be of statuary marble, the slab of black marble with incised and gilded inscription will be raised, and will also bear the arms of the Archdiocese of Tuam. The whole will rest upon a moulded green base. Mr. James Logan, Great Brunswick Street, Dublin, is carrying out the work.

Major Alfred Longden, Director of the British Institute of Industrial Art, who is at Christiania inquiring into the prospects of holding an exhibition of British Arts and Crafts next year, has received much encouragement from members of the Storting and the university, and others who agree that such an exhibition is most desirable, particularly as certain kinds of British work, such as illumination of manuscripts and enamel are unknown in Norway.

Our Office Table.

The renunciation by the King of Italy of great tracts of Crown lands carries farther the process by which monarchs are rapidly ceasing to be great landowners. Here there are many subjects with far larger acreage in their personal possession than the King. The great Crown lands are no longer at the disposal of our kings; they are surrendered reign by reign to the country in order that Parliament, by voting a Civil List in return, may keep a hold on Royal expenditure. It is true that some kings, like George III. and his son, got over the difficulty by coming to Parliament for the payment of debts at intervals, but royalty nowadays lives within its means. All over Europe Crown lands are being dissipated. Germany is negotiating with the Kaiser in respect of his personal property, but the Crown lands pass to the State. In Austria and Hungary, where the list of royal castles and estates was a long one, the lands also revert to the people. Long ago most of the French royal properties similarly changed hands. The greatest landowners in modern Europe were the Russian Tsars, and their sway has gone for ever. In the matter of estates beyond Europe the late King of the Belgians was the greatest of royal landowners, and he passed on his African properties to his country.

At a large and representative meeting of the Birmingham branch of the National Federation of Building Employers, a resolution was passed last week to the effect that members were prepared to construct houses for the Corporation on a 10 per cent. profit basis, and were in a position to commence building operations immediately. They further desired that in view of the urgency of providing houses for the working classes the Corporation should be invited to acquire, wherever practicable, land which had already been laid out and completed with roads and sewers ready for building purposes, thus avoiding the delay of constructing roads and sewers on new estates further afield. Surprise was expressed that a statement had been made in the Council that builders were not assisting the Corporation in their housing difficulty, having regard to the fact that they had been only too anxious at all times to render every assistance in their power.

With the view of preventing the haphazard dispersal of antiquarian finds in Wales, frequently resulting in their being altogether lost to the public, the Cambrian Archaeological Association are very anxious that effect should be given to the resolution passed at the last annual meeting at Dolgellay, that finds of special interest ought to be deposited in the Welsh National Museum rather than in institutions outside the Principality. All the finds of the Association are now housed at the National Museum and the literature at the National Library. Any finds handed over to the Association will be deposited at the Museum as the Association's property. An instance of what may be done in this way is the recent handing over to the Association of the greater part of the collection of antiquities made by the late Rev. W. Wynn Williams. These were stored at Menaifron, on the Anglesey, on the banks of the Menai Straits, and have been presented by the collector's son, Captain Ivor O. Wynn Williams, of Bronwylla, Llandudfel, and at the request of Canon Fisher, secretary to the Cambrian Association, they are being forwarded to the National Museum by Mr. Harold Hughes, F.S.A. (Bangor). By far the greater proportion of the finds come from Anglesey, though there are a few specimens from Segontium and other Carnarvonshire sites. They include numerous querns, mortars, and rubbing stones.

A town planning exhibition is being organised at Liège, Belgium, for February, 1920, by the Association des Architectes de Liège, U.P.A. Lg. (Belgium). The Association will exhibit any drawings, models, etc., illustrating engineering, architectural and other matters in connection with town planning and allied matters. These should

preferably show planning and construction suitable for Belgium. Monsieur A. Snyers, Architecte Diplômé, Pres., Association des Architectes de Liège, of 62, rue Louvrex, Liège, is the President of the Exhibition, whilst the General Secretary is M. Maurice Legrand, Architecte, 44, rue Darchis, Liège. Mr. W. E. Woolley (Walthamstow, London), member of the Society of Architects and Membre Correspondant, Association des Architectes de Liège, forwards this information. A similar exhibition is being held at Brussels in September. In regard to the Liège Exhibition it has been decided to exhibit plans showing proposed reconstruction and re-modelling of city, models of new bridges to be constructed, and plans and models of various garden cities to be erected on the outskirts. The Organising Committee have the co-operation of Burgomasters of adjoining towns as well as Engineers, Surveyors, etc., holding official posts.

The nineteenth edition of "Practical Sanitation," by George Reid, O.B.E., M.D., D.P.H. (London, Charles Griffin and Co., Ltd., 7s. 6d.), is a revised issue of a very useful handbook for sanitary inspectors and others interested in sanitation, first published in 1892. We note with satisfaction the author's expression of opinion in the preface to the present edition that it is to be regretted that the long expected codification of the many Acts of Parliament which govern procedure of sanitary law has not yet been effected, and the hope that now the Ministry of Health is constituted the simplification of the existing legal machinery will receive early attention.

Sir Edward John Poynter, Bt., G.C.V.O., of 70, Addison Road, W., President of the Royal Academy from 1896 till December last, who died on July 26, aged 82, has left estate of the value of £20,608, the net personality being £19,825. The will and codicil, both dated March 28, 1913, are proved by Captain Hugh Edward Poynter, of 55, Holland Road, Kensington, son, and Charles Francis Bell, of the Ashmolean Museum, Oxford, nephew. The testator gives to his younger son Hugh a selection of the drawings made by his father, Ambrose Poynter, and also of furniture of the value of £100. The family portraits and remainder of the drawings of his father he leaves in trust for his eldest son, Lieutenant Ambrose McDonald Poynter, F.R.I.B.A., the present baronet. Subject to a legacy of £50 to Mr. Bell for acting as executor, the residue of the property he leaves, as to three-fifths, in trust for his son Ambrose and two-fifths to his son Hugh Edward.

A correspondent, whose attention has been called to the orb in the left hand of the figure of Queen Victoria in the Memorial facing Buckingham Palace as being different from that used in Coronation ceremonies, and shown at the Tower of London, in response to an inquiry has elicited the following reply from Sir Thomas Brock, K.C.B., the designer of the memorial, who says:—"The orb is not of heraldic design. The figure on it is St. George, which I thought might fittingly be placed upon the emblem representing our Throne's dominion."

Moor Park, Rickmansworth, has been sold by Messrs. Knight, Frank and Rutley to Lord Leverhulme. The property extends to 3,000 acres, and includes the historical mansion house, which stands in a deer park, the Sandy Lodge Golf Course, Tolbit's House, Moneyhill House, Batchworth House, Batchworth Heath House, Batchworth Hill House, Frogmoor House, Cole King's House, and several important farms and valuable building land, the estate reaching from Rickmansworth to Watford. The park was enclosed in 1460 by George Nevil, afterwards Archbishop of York, to whom it had been granted by Henry VI. It afterwards passed to Cardinal Wolsey, who is said to have entertained Henry VIII. and Anne Boleyn there during their courtship. Among other famous tenants was the Duke of Monmouth, who retired to Moor Park after taking part in the Rye House plot, for which he was beheaded in 1685. Benjamin Styles, who made a fortune out of the South Sea Bubble, bought the

place in 1720, and converted the house from a fine example of Tudor architecture to its present style. The estate was purchased by the first Marquis of Westminster in 1828, and his grandson, Lord Ebury, the recent owner, inherited it.

It is now authoritatively stated that the Duke of Devonshire has sold Devonshire House, Piccadilly, to Messrs. Holland and Hannen and Cubitts, Ltd. Messrs. May and Rowden, surveyors and valuers, of Maddox Street, who acted on behalf of the purchasers, say: "This definitely disposes of the various rumours which have floated about for some time past. The property has a frontage of nearly 230 feet to Piccadilly, an average depth of 670 feet, covers an area of nearly 3½ acres, and, besides its important Piccadilly frontage facing the Green Park and nearly opposite the Ritz Hotel, has large frontages to Stratton Street, Berkeley Street, and Lansdowne Passage, Carzon Street." It is understood that the purchasers have bought with the intention of dealing with the property again, and Messrs. May and Rowden will act for them in any such transactions. The purchasers have no intention of erecting an hotel or any other building on the site. So far as they are concerned, it is declared, there is no "American syndicate" taking part in the purchase. The price paid to the Duke cannot be stated. The solicitors acting for him are Messrs. Currey and Co., Great George Street, the purchasers being represented by Messrs. Leighton and Savory, of Carey Street. The Duke of Devonshire, it is understood, is retaining a number of antiquities and other things, including the Adam mantelpieces and other decorations, with a view to utilising them in building another house in London.

Speaking last Monday at the annual meeting of shareholders in John Hetherington and Sons, Ltd., held in the offices in Pollard Street, Manchester, the chairman (Mr. W. H. Whitby) pointed to various difficulties besetting the engineering trade at the present time, especially the system of Government doles for people supposed to be out of work. He read the other day, he said, that 12,000 men were unemployed in the engineering trade. It was very strange that should be the case when his firm was wanting men. "We have been trying," Mr. Whitby added, "since the end of the war, and cannot get them. We are 1,200 hands short to-day, and yet we are told there are 12,000 men unemployed in the engineering trade. We have applied to the trade unions and labour exchanges; our foremen are using their influence, and until we get the men we cannot have the production we ought to have. We have men coming to the works and asking for a job, and when told what the wages will be they count up the difference between their out-of-work pay and the wages offered, and decline to be employed. We have often been told they can do better than that by doing nothing. I have heard of a father, two sons, and two daughters receiving over £5 a week. So long as they can get that they do not want anything better."

The Lord Mayor and Mr. H. Percy Monckton, C.C., have been appointed on a special committee formed by Grand Lodge to consider the proposition of the Duke of Connaught as Grand Master, for the erection of a Masonic temple in the metropolis.

At the Guildhall last Friday Henry Hart Hyams was committed for trial on charges of larceny, with intent to defraud, destroyed certain books and documents belonging to the Second Bishopsgate Mutual Benefit Building Society, of which he had been secretary for many years. The defendant, an elderly man, was admitted to bail in his own recognisances of £500.

"An allowance for repairs equal to one-sixth of the gross rents is made on the income-tax assessment for houses," writes Mr. F. A. Reeves, 8, Laurence Pountney Hill. "If the allowance was a fair one before the war, it cannot be a fair one now. In other words, although the income from these houses is probably about one-half of the pre-war figure, tax is payable as though it had remained the same, and the unfortunate owner is practically paying double income-tax."

LIST OF TENDERS OPEN.

BUILDINGS.

- Sept. 15.**—For buildings in connection with the electricity generating station extensions at Chamber Hall, Bury, Lancs.—For the corporation. Sealed tenders to J. Haslam, town clerk, Bank Street, Bury.
- Sept. 15.**—For 16 houses on the building site in the parish of Hagley.—For the Bromsgrove Rural District Council.—Tenders to H. D. Holloway, clerk, Union Offices, Birmingham Road, Bromsgrove.
- Sept. 15.**—For erection of 37 artisans' dwellings at Child's Hill.—For the Hendon Urban District Council.—G. Hornblower, F.R.I.B.A., 2, Devonshire Terrace, Portland Place, London, W.1. Tenders to H. Humphris, Town Hall, Hendon.
- Sept. 15.**—For erection of 120 houses at Lower Brazley.—For the Horwich Urban District Council.—T. Green, surveyor to the council, Public Hall, Horwich. Tenders to W. Carter, clerk, Public Hall, Horwich.
- Sept. 15.**—For three pairs of cottages at Cockley Clay, and four pairs of cottages at Spoor.—For the Swaffham Rural District Council.—J. Owen Bond, L.R.I.B.A., 29, Castle Meadow, Norwich, architect. Sealed tenders to S. Matthews, clerk, Swaffham.
- Sept. 16.**—Erection of new picture house, Askrum, Doncaster.—For the directors of the Askrum Picture House Co., Ltd.—T. H. Johnson, 20, Priory Place, Doncaster, architect. Sealed tenders to the secretary, F. Hibbert, chartered accountant, 14, Priory Place, Doncaster.
- Sept. 16.**—For taking down large sliding doors and making small structural alterations in the wards of Section 6 of the township infirmary, Beckett Street, Leeds.—For the guardians.—J. H. Ford, clerk, Poor Law Offices, South Parade, Leeds.
- Sept. 17.**—Erection of cottages.—For the Bourne, Lancs., Rural District Council.—Tenders to C. W. Bell, clerk, Council Offices, Bourne.
- Sept. 17.**—Enlargement of Little Heath Council School, Coventry.—For the Education Committee.—G. and I. Steane, 22, Little Park Street, Coventry, architects.
- Sept. 17.**—The Commissioners of His Majesty's Works invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1, for erection of cottages at Pembrey, South Wales.
- Sept. 18.**—For 14 houses at Town End, Chapel-en-le-Frith.—For the Chapel-en-le-Frith Rural District Council.—C. Flint, 5, The Quadrant, Buxton, architect. Tenders to the Clerk's Office, High Street, Chapel-en-le-Frith.
- Sept. 18.**—For alteration and adaptation of existing dormitories at the institution, East Greenway, into nurses' bedrooms.—For the Guardians of Greenwich Union.—L. Jacob, 39, Bloomsbury Square, W.C.1, surveyor.
- Sept. 19.**—Eighty houses at Rothwell, being part of some 500 houses it is proposed to build.—For the Rothwell Urban District Council.—W. A. Jones and J. E. Stocks, 56, Prudential Buildings, Leeds, architects.
- Sept. 20.**—Fourteen working-class houses at Witney.—For the Witney Urban District Council.—Tenders to R. F. Cuthbert, clerk, 28, Bridge Street, Witney, Oxon.
- Sept. 22 Oct. 7.**—For the first portion of the Colman Road, Leicester, Housing Scheme, consisting of 120 houses, viz: Block 1, 40 houses; A. J. Wood, A.R.I.B.A., architect, Leicester; block 2, 40 houses, Pick, Everard and Key, architects, Leicester; block 3, 40 houses, Stockdale, Harrison and Sons, architects, Leicester.—For the Estates, etc., Committee of the Corporation.—E. G. Mawhey, M.I.C.E., city engineer and surveyor, Town Hall, Leicester.
- Sept. 22.**—For the first instalment of dwellings on the Spitaland site, Rochdale.—For the Housing Committee.—Tenders to W. H. Hickson, town clerk, Town Hall, Rochdale.
- Sept. 22.**—Ten houses in Cardinall's Road, Stowmarket.—For the Stowmarket Urban District Council.—Hunt and Coates, Bury St. Edmunds and Stowmarket, architects.—Tenders to P. C. G. Hayward, clerk, Stowmarket.
- Sept. 23.**—For 18 houses on the Christchurch Estate, Wembley.—For the Wembley Urban District Council.—Tenders to E. B. Kaylor, clerk, Council Offices, Wembley, Middlesex.
- Sept. 23.**—Housing schemes.—For the Aberdare Urban District Council.—W. D. Jenkins, F.S.I., A.R.I.B.A., Town Hall, Aberdare, architect.
- Sept. 23.**—Additions to the Retreat, Fairwater Road, Llandaff.—G. E. Halliday, F.S.A., F.R.I.B.A., 9, Quay Street, Cardiff.
- Sept. 24.**—For 752 houses on the Brushes Estate, Fifth Park, Sheffield.—For the Estates Committee.—F. P. Edwards, city architect, Town Hall, Sheffield.
- Sept. 25.**—Eighty-five houses on the Ivy House Estate, off York Road, Leeds; 50 houses on the Hawksworth Wood Estate, Kirkstall, Leeds.—For the Improvements Committee.—Tenders to the Town Clerk's Office, Great George Street, Leeds.
- Sept. 26.**—Twenty-one pairs of cottages at Woking Village, of three different types.—For the

Woking Urban District Council.—Tenders to G. J. Wooldridge, town surveyor, Council Offices, Woking.

Sept. 26.—The Commissioners of His Majesty's Works, etc., invite tenders, addressed to the Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, S.W.1, for the erection of a telephone exchange at the corner of Great Tower Street and St. Dunstan's Hill, E.C.

Sept. 27.—Six houses in Langibby Village, on the main county road between Caerleon and Eski.—For the Pontypool Rural District Council.—Lougher and Co., Pontypool, architects.—Tenders to T. P. H. Watkins, clerk, Pontypool.

Sept. 29.—Seventy houses at Stratford-upon-Avon.—For the town council.—R. Lunn, town clerk.

Sept. 29.—Forty-two houses.—For the Barnes Urban District Council.—Tenders to G. B. Tomes, A.M.I.C.E., Surveyor, High Street, Mortlake, S.W.14.

Oct. 1.—Thirty-two houses at Little Thurrock, near Grays, Essex.—For the Orsett Rural District Council.—J. Beck, clerk, 2, Orsett Road, Grays.

Oct. 6.—Forty cottages on the Harebreaks Estate, Watford, Herts.—For the Watford Urban District Council.—Tenders to W. Hudson, clerk, Council Offices, Watford, Herts.

CHIPS.

The death is announced of M. Georges Chairin, the painter.

The Leicestershire Education Committee have decided to build a technical college at Coalville.

The autumn meeting of the Royal Archaeological Institute of Great Britain and Ireland will be held at St. Albans on Thursday and Friday, September 25 and 26, under the guidance of Mr. W. Page, F.S.A., and Mr. C. R. Peers, M.A., F.S.A.

Sir Edwin Lutyens has designed for the Hampstead Garden Suburb Free Church a cenotaph similar to that erected in Whitehall. A large panel in memory of the fallen with the subject of "The Ascension," has also been designed and executed by Mr. Ivor Beaumont, F.S.A.

A memorial service for the members of the Auctioneers' and Estate Agents' Institute of the United Kingdom who have fallen in the war was held at St. George's Church, Hart Street, Bloomsbury, yesterday, at 3.30 p.m., when the Bishop of Newcastle delivered an address.

The Council of the R.I.B.A. have awarded the Godwin Bursary and Wimmeris Bequest for 1919 to Mr. H. Austen Hall [F.R.I.B.A.]. Mr. Hall is about to make a tour in the Eastern cities of the United States, and will prepare a report on modern stores and shop buildings under the terms of the Bursary.

The Board of Trustees for the Improvement of Calcutta have selected Mr. M. R. Atkins, A.M.I.C.E., B.Sc., chief engineer, Colombo Drainage Works, for the post of chief engineer to the Improvement Trust, in succession to Mr. J. Maden, M.I.C.E. The appointment is subject to the approval of the local Government.

Imbertcourt, which was established by the Inventions Board, is now superfluous, and yet it is costing £100 a week more now than it was the week before the armistice was signed. An offer has been made to purchase it for 220,000, but it is still costing £1,000 a week to keep it going. The only use which is being made of the remainder of the staff is to take the wages down to this place every week. At the present rate of paying wages it will take only twenty weeks to absorb the total value of the concern.

Eton Rural District Council is on the verge of bankruptcy. It is overdrawn at its bankers to the extent of £2,000, and has no money to pay its bills. There is a deficit of £4,450 in the present estimate, and to meet the situation the ensuing rate has been more than doubled. The council has expended over £5,000 on road repairs, for which they have not received a penny, although the work has been approved by the Road Board and the War Office officials. After many applications the matter has been referred by the War Office to the Southern Command. They have also to finance the Food Control and Fuel Control Committees. Under the housing scheme they have appointed officials at over £1,000 a year, but not a penny has been paid to these officials.

ALL ADVERTISEMENTS

for the Current Issue of the

BUILDING NEWS

must reach us by

3 p.m. on THURSDAYS.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly, as possible, as there are many claimants upon the space allotted to correspondents.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither them nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Effingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion. Of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

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Telegrams: "Timeserver, Estrand, London." Telephone: Gerrard 1201.

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NOTICE.

A few bound volumes of Vols. XXXIX., XL., XLV., XLIX., LI., LXI., LXII., LXIV., LXV., LXVI., LXVII., LXVIII., LXIX., LXX., LXXI., LXXII., LXXIII., LXXIV., LXXV., LXXVI., LXXVII., LXXVIII., LXXIX., LXXX., LXXXI., LXXXII., LXXXIII., LXXXIV., LXXXV., LXXXVI., LXXXVII., LXXXVIII., LXXXIX., XC., XCI., XCII., XCIII., XCIV., XCV., XCVI., XCVII., XCVIII., XCIX., C., CI., CII., CIII., CIV., CV., CVI., CVII., CVIII., CIX., CX., CXI., CXII., CXIII., and CXIV. may still be obtained, 12s. each, post free 12s. 10d.; all other bound volumes are out of print.

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Most of the back issues are to be had singly, price 6d. each, postage 1d. Subscribers requiring them should order at once, as they soon run out of print.

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R. A.—No.

D. H. G.—Please send.

CHRONOS.—Very poor indeed!

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Strand, W.C.2

OUR ILLUSTRATIONS.

Additions to a Greenwich Mill. Sir Aston Webb, P.R.A., and Mr. Maurice E. Webb, F.R.I.B.A., D.S.O., M.C., Architects.
The Fletcher Moss Home for Poor Gentlefolk. Mr. John Swarbrick, F.R.I.B.A., Architect.
House at Hornchurch for Mr. Richard Garbe. Mr. A. Harry Heron, A.R.I.B.A., Architect. View and plan.
Proposed Narthex Screens War Memorial, Hammer-smith. Original sketch, details, and plans. Mr. Maurice B. Adams, F.R.I.B.A., Architect.

Currente Calamo.

The Minister of Health is most anxious that, in connection with the possible improvement or reconstruction of rural cottages under the Government Housing Scheme, all steps which are practicable shall be taken for the protection of old buildings of architectural or historic interest. With this object in view, and in order to secure expert advice on such cases as involve aesthetic considerations in connection with any proposals of this nature, Dr. Addison has decided to appoint a consulting architect to advise the Ministry in the matter. Mr. Ernest Newton, R.A., has accepted Dr. Addison's invitation to serve as honorary consulting architect to the Ministry in this connection, and will advise on cases of this kind whenever referred to him by the Ministry. No better selection could have been made, and Dr. Addison is to be congratulated if Mr. Newton's advice is followed, as we trust it will be.

The most fitting reply to Mr. Lloyd George's magniloquent manifesto we have seen was made by the Newcastle Chamber of Commerce on Monday, when it was unanimously resolved "That, in the opinion of this Chamber, the vital need of the country is retrenchment, national and individual, and that until the Prime Minister sees national expenditure is drastically cut down, beginning in all departments of State, this Chamber does not think the time opportune to discuss his manifesto." Mr. W. J. Noble, who moved the resolution, said the Government were trying to befool the people, and it was time to speak out plainly and let the Prime Minister realise they were not going to be humbugged any longer. That, we trust, is true. Our immediate and most necessary concern is with the future of our own country, and not with that of a "new world." Let Mr. Lloyd George set to work to redeem his own mistakes—to call them by their mildest name. Let him repeal the useless Insurance Act, with its "refreshing fruit" still tantalisingly dangled just out of reach of the masses. Let him repeal the iniquitous clauses in the Finance Act of 1909-10 which have paralysed the second great industry of the country and delivered

hundreds of thousands into the hands of the housing profiteer. Let him dismiss the hordes of placemen who to-day are his only sincere adherents, and surrender back to Parliament its supremacy guaranteed by the Constitution he has violated. Then there may once more be ordered progress on the old lines of Freedom and Justice. For those indispensable elements of any better future there is not a tittle of respect shown in the flummery Mr. Lloyd George fancies the people of England will swallow at his imperious bidding.

Yesterday week the Parliamentary Secretary talked at Brighton about "the critics who said the work should be done by private enterprise." The next day the *Times* gave an instructive comparison of the dillying and dallying exhibited by the Government Departments concerned with housing as follows:—"At Wandsworth, where the Borough Council have submitted schemes for the erection of 700 houses, 300 of which are to be begun at once, the question of housing has been before the council for eighteen months. Many difficulties have been encountered. Many tangles of 'red tape' have had to be unravelled. The humiliation of going cap in hand again and again to officials and Departments has been endured. Practical builders who are members of the council express the opinion that private enterprise, with a little encouragement from authority, would have had the houses built and tenanted by this time. At Harrow, too, the council is reported to be 'pushing on with their scheme as quickly as Government control allows.' Apparently, to some extent at least, they have given it up as a bad job, or so great is the need of houses, that the council have decided not to wait for the Government scheme, but to erect Army huts on the site, which will afterwards be used for the municipal houses. A very different story comes from Harefield, Middlesex, where a 'record' in house construction has been created. Within three days of a month two cottages have been built by Messrs. Bell's United Asbestos Company. The erection was an experiment, and it is anticipated that the next two will occupy but three weeks to build. The cottages have four bedrooms, a sitting-room, kitchen and

scullery. A bathroom is partitioned from the scullery, and hot water apparatus is provided. The cottages are built of 'Hurcan' (cement) bricks with asbestos sheeting (Poi-lite) facing. Cork lino is cemented to the floors. Another fifty houses will shortly be in course of erection, and the whole property will be lighted with electric light, an inclusive rent being charged for this advantage."

The Skegness Urban District Council quashed the proposed Government housing scheme last Tuesday week by a majority vote after an hour and a-half of discussion, although the scheme had so far advanced that the lay-out plan was virtually approved and extra officials had been appointed to assist the town surveyor, who is the architect. On the minutes of the Housing Committee coming forward, Mr. J. H. Shelley led the "attack." In a lengthy speech not altogether free from personalities, he "slated" the committee roundly on the proposal to charge £35 a year rental for a four-bedroomed house. With rates, he said, this would mean £47 a year, which was a perfectly ridiculous sum to ask a working man to pay for a house. What were the man's wife and "kids" to live on—"fresh air?" Dr. Sweeten, the chairman, said the rents announced were only approximate ones. They would be no higher, in any case. Messrs. H. A. Manton and Geo. F. Ball upheld the criticism as to the rents and the soundness of the scheme, the former saying that no building estimate within £300 per house could be given at present. Mr. Ball eventually moved that the minutes be not passed until the whole of the facts and figures were forthcoming, so that the actual rentals could be based. Mr. W. Clayton strongly urged the Council to proceed with the scheme on the grounds of necessity, progress and patriotism. On the vote being taken seven supported the amendment, which was declared carried, and it was stated that the whole housing scheme thus automatically fell through. The next development remains to be seen. Mr. Clayton moved the deletion from the minutes of all estimates in connection with the scheme, and also that of the proposal to purchase the estate offices as a new town hall for £3,800. "You have declared for stagnation," said Mr. Clayton "So let it be."

The report that near Birmingham there is a garden suburb containing more than

sixty houses, built under the best conditions, and offered at a rental of from 6s. to 8s. per week, for which not a single tenant has been found, is disappointing. It is best, however, to face the fact, emphasised as it is just now by the additional burden higher rail and tram fares are piling on to the workman's back, that people will not live too far away from their work if they can help it. Naturally, if all our great towns are to be "town-planned," the workman and the lower middle classes will be cleared out, as in some towns they have been already, to make room for more palatial buildings. As yet little has been done to realise the dreams of enthusiastic town-planners of large towns, filled with factories and workshops, out of which the workpeople should all be conveyed to their homes in the outskirts by tramcars. Nor, honestly, do we think it will be. We shall be pleasantly surprised if, in the not distant future, the outskirts of our "garden cities," and possibly some of the garden cities themselves, are not transformed into slums, into which the poorer exiles from the new "town-planned" towns will be herded as unhealthily as now. There are signs of that already in some of the garden cities, as the occupants of the better-class houses therein quite well know. For this reason town-planning should not be rushed, and certainly private enterprise should not be hindered, as it has been at Birmingham, for instance, from providing healthy, convenient, and reasonably-rented houses for the people, because they may all have to be cleared away presently to make a town-planning scheme a success. The social betterment that alone can ensure the healthy permanency of a garden city worth the name will be of slow development. We shall not all be changed in the twinkling of the eye of Mr. Lloyd George or any other maker to instant order of the new world. If this is doubted, we fear some of our not distant descendants may discover more abandoned garden cities like that which, at rentals so tantalisingly cheap, fail even to attract the week-enders the profiteering speculator in houses is bleeding so merrily.

"It would do the heart of the British reformer good to wander through Amsterdam and Leyden and some of the other places and see, not isolated houses or samples of communities, or even streets, being erected, but whole districts springing up as it were by magic. These houses are not shoddily built. That is not the Dutch way. But they are there, and the workmen are living in them; and if you talk to the people who are concerned with their production of the efforts made in England they smile in a kindly sort of way and think you are pulling their legs." So writes Mr. W. A. Appleton in last week's *Democrat*, in telling how Holland has met the housing problem. "Whereas in Britain we have literally spent millions upon Commissions, inquiries, department officials, and Ministers without providing houses, the Dutchman, as far as one may make out, has had no

Commissions, no inquiries, no officials, no Ministers, but he has got houses. When I looked at all these evidences of common sense and capacity," writes Mr. Appleton, "it seemed that the only way to help my own country would be to plead with the Dutch as an act of grace to let us have, at least for a time, those who made the arrangement for the houses, those who planned them, and those who actually built them. If we could borrow the whole crowd for twelve months, I am satisfied that we would be able to get rid of seven-eighths of the officials and the expenses which now burden all of us and prevent us getting the real thing. In view of what I have seen I am not without hope of persuading both the Minister of Health and Food Controller to spend at least a part of their vacations in Holland." If neither came back again we doubt whether they would be greatly missed!

Who are the "lunatics"? Lord Fisher tells a capital story at the end of his six excellent articles in the *Times*, the last of which appeared last Saturday, which is well worth the widest circulation. He says: "Mind you, when all these articles are read people will say, 'Here's a lunatic.' Now, I will tell you a story about a lunatic. A friend of mine went to see a lunatic asylum where the patients were being treated on a new principle of giving them the utmost latitude to indulge their tastes. The day he went bricklayers were putting up in the spacious grounds some little outbuilding. A bevy of patients had asked for wheelbarrows to trundle about the grounds. They were given them, and my friend met one of them wheeling his barrow upside down. He said to the lunatic, 'Ain't you making a mistake? Your barrow ought to be the other way up.' The lunatic stopped wheeling his barrow and said to him, 'Well, you know, I thought myself I was making a mistake, but when I turned it over the other way they filled it full of bricks!' He was the only sane man among the lunatics. The others were wheeling barrow-loads of bricks for the bricklayers. He used his barrow for his own intended purpose. I sometimes think I am the only sane man. Anyhow, I am going to wheel my barrow upside down. I'll see the Admiralty bricks damned first before I wheel them about." The moral is pretty obvious, and if anyone is so dense as not to see it we recommend the careful perusal of the first leader in the *Times* of the same date, and then ask himself how much longer he is going to "wheel bricks for the bricklayers!"

One of the reasons why building is dearer is well stated in the *Birmingham Daily Post* by a builder of many years' standing in that city. He says:—"I unhesitatingly declare that building trades employers are up against no tougher problem than that presented by the average bricklayer's labourer. A few short years ago one labourer would easily

serve two bricklayers, and with the addition of a penny or three-halfpence an hour would make all the mortar. An intelligent interest was taken in the work, and the bricklayers were well served with the materials. To-day the motto is 'a man to a man,' i.e., one labourer to one bricklayer; no matter what the job is he will only have one mate, with the obvious result that on many occasions the hardest work he has to do is to 'kill' time waiting for 5.30 p.m. to come. This time is generally spent behind the brick stack and entertaining each other on the 'probables' for the day or enlightening one another on the last soft job they had. All this is quite bad enough, but when one considers the notorious fact that bricklayers do not lay much above 50 per cent. of the bricks they could easily do, the case becomes infinitely worse. No wonder the proposed artisans' dwellings are costing such extraordinary figures. With building materials at the present excessive prices, it will perhaps astonish those uninitiated that out of every £700 spent on building to-day labour swallows up practically £400 of the amount. To the action of the Labourers' Union in accepting any Tom, Dick, or Harry into their ranks much of the above is due. Instead of treating the work from a skilled point of view (which it undoubtedly is, the rate of pay only 3d. per hour less than a bricklayer), anyone can get in the union as a bricklayer's labourer, with the result that the pace of the job quickly becomes the pace of the last comer. Much of this has happened during the war, and unfortunately bad habits are hard to get out of. The boom is here for a time, there is work in plenty, but let me as an employer—who wishes his men well, and who has never forgotten the day when he was a working man himself—warn them that this madness cannot last; they are fast approaching the day when scores will be walking about doing nothing."

Considerable interest has been aroused by the discovery made during the Mesopotamian campaign that photographs taken from the air revealed details of ancient settlements which were not visible to observers on the ground. Photographs which were taken from above Samarra, on the Tigris, for military survey purposes, showed quite clearly the plan of a former city which extended along the river banks for a distance of twenty miles, and similar survey operations elsewhere revealed the outlines of an extensive system of irrigation works and ancient fortifications. Colonel Beazeley's announcement of these discoveries through the journal of the Royal Geographical Society has now brought to the society a letter from Sir Aurel Stein, the archaeologist and explorer in the service of the Indian Government. Sir Aurel Stein says that during his excavations in the deserts of Central Asia he has often wished for the means of obtaining a view of the ground from an adequate height. Even from the

relatively small height of an isolated clay terrace he was able to recognise the course of some ancient ramparts whose lines would have been most difficult to trace on the ground, which was covered with reeds and scrub. But for the difficulties of transport he would have taken a man-carrying kite with him on his last expedition. In the near future he is hopeful that aeroplane surveys of some of the more important sites of Indian antiquity will furnish valuable additions to knowledge.

At the British Association last week, Professor Augustine Henry, lecturing on afforestation, declared that the afforestation of water catchment areas was a hygienic measure as well as a means of increasing the timber reserves of the nation. Often the steps taken to prevent pollution were inadequate. There was one means by which water catchment areas could be effectually guarded against pollution, and at the same time be put to profitable use, and that was afforestation. It was probable that the proportion of any gathering ground that could be planted with advantage would be found to vary from 10 to 70 per cent. of the total. Over 1,000 ft. elevation a combination of grazing and forestry must be resorted to. Only the lower zone and the sites with favourable soil were suitable for planting. The main difficulty of afforestation on a large scale in England lay in the necessity for the acquisition of the land by some corporation or State authority who would be bound to carry out the work on the only lines that would ensure success—namely, the planting to be spread over a term of years, to be uninterrupted, and to be carried out in large blocks, in no case of less than 500 acres each. Mr. R. L. Robinson pointed out that the principle now advocated of ensuring a supply of timber that would safeguard the national interests in time of need had been adopted long ago, for the Forest of Dean had been preserved by Act of Parliament to provide timber for the Navy, and though the trees then planted had not actually helped in the direction originally intended, they had been of very great value during the recent war. Professor Somerville, whilst an individualist in many respects, agreed that the State should take up afforestation as its own work. Why, we really cannot see. The need of scientific afforestation no one doubts; what guarantee have we that the State is likely to manage it honestly or successfully, after the blundering and plundering of the last five years? Another "Ministry," with its horde of hangers-on with big salaries and little to do, would be the first step, and the really practical men would be shouldered into ill-paid labour, if, indeed, real work were ever begun.

Let us all go to the workhouse! They do accepted tenants well in Marylebone and Fulham. According to the *Daily Chronicle*, at Marylebone Mr. J. W. Stray-

ton, an ex-Army man, who is working as a motor engineer, has been living as a paying guest, with his wife and three children, in the workhouse. Another case of a "paying" family was reported from Fulham. Mr. Strayton, it is stated, came to London two months ago, and, failing to get a house because he had children, applied to the police, who recommended the arrangement. For 35s., at Marylebone, Mrs. Strayton and her three children get all their meals and an excellent bedroom, and the husband also gets his meals on Sundays. A sample Sunday menu is:—Breakfast: Egg or bacon, bread, butter substitute, and tea. Dinner: Roast beef, two vegetables, pudding. Tea: Salad, bread and butter, jam or tomato, tea. Supper: Bread and cheese. While the ratepayers are willing, this arrangement solves the housing and food problems in a fashion the Ministry of Health and the Food Controller might surely emulate?

FUTURES AND PASTS.

Mr. Lloyd George's flamboyant manifesto—or rather, to tell the truth, the very pertinent and mirth-provoking cartoon in the *Evening News* of last Monday reminded us consumedly of not very dissimilar utterances by the prophets and teachers of art who harangued our fathers and grandfathers—not on the new world and its millennium-like conditions, but on the guiding principles indispensable to success in the effort to evolve a new style. With one school of the prophets the watchword was "Utility!" First the useful, and leave beauty to take care of itself. Our friends the civil engineers were the only people who took up this cult seriously; and if their success was so complete that its accomplishment at any rate furnished not a few examples of that which is best avoided, it certainly gave us structures regarding which little cant about moral principles, or the absolutely necessary inspiration of Greek culture or Christian influence was talked. With ourselves it was otherwise when the seventeenth-century revolt against beauty had subsided into as sleepy a tolerance of the commonplace as complete as may spread a dead-level of semi-barbarism throughout Russia when the Bolsheviks out of sheer inanition have ceased their orgies of murder and confiscation.

When the mid-Victorian architect was saved as by fire from the "Pagan" traditions of Classicism, there was nothing for him but to become an ecclesiologist and to believe with all his heart that anything his forebears had built before the middle of the fourteenth century was a snare of the evil one to entrap the exorcised victim of the Five Orders in the meshes of the Styles, and send him stumbling along the downward path to destruction. For the most part the neo-Goth caught the fever badly. We remember some forty years ago reminding our readers that even in Shakespeare's time it was held that the words of the Hundredth Psalm and the tune of "Green Sleeves" somehow did not go well together, however differently Revivalists and Salvationists may have thought; but that by nobody as yet had music-hall ditties been set to airs from the "Messiah," and that sacred music was not set to secular uses. Therefore, we and others hinted that good taste might have suggested a similar reserve in architecture. It did not. The earlier structures of the only-to-be-followed period were

castles and churches, and as few commissions to build castles were likely, and, thanks to the contemporary revival of religious activity following the Oxford movement, there were many restorations of old churches to primitive simplicity to be had, and many more new ones to design, it was an article of faith and duty with their architects that all must be alike in style and uniform in character.

Nor was this all. If Pointed arches were good for churches, they were good for cottages, and shops, and houses, and banks, and taverns, and theatres, if not for religious still for abstract reasons, the profundity of which was awesome. We remember listening with bated breath to one eloquent apostle of the time who had persuaded himself and nearly us to remember that it was a distinctly moral duty to use the Pointed arch everywhere, because its profile was that of a leaf, and so took us back to Nature, the primal fount of all beauty, whereas the rectangular opening was like nothing left to us in heaven or earth or the waters under the earth. There were far fewer domestic buildings to restore than churches, and when the architect began to design new ones, having no models to copy, as he had copied the old churches, he found that the requirements he had to meet had not taxed the ingenuity of his forebears, but that as soon as his work, pretty as it looked on paper, was embodied in brick and stone it was plain to his clients, and very soon to himself, that the features, excellent in a church, or thought so, were entirely out of character with or suitability to a bank or a warehouse or a railway station. And when, to meet the demands of wealthy clients who wanted mansions and country houses, searching for precedents, he began to study the old manor houses and farmsteads, and found that the square-headed windows he had brought himself to regard as anathema were among the most charming features of their construction, he began to understand that the domestic architecture of the Middle Ages, distinctive as it was from that of the churches, harmonised with them, and afforded full scope for provision of the fitments and conveniences unknown to our forefathers. There were a few of the strictest sect, like the hero of Professor Kerr's novel, "The Ambassador Extraordinary," who insisted on reproducing all the drawbacks of the old work, while insensible to its spirit; but with most common sense prevailed, and secular domestic art was studied rationally, and the result was good—so good that foreigners to-day who are sent over to study British architecture are advised especially to give attention to study our country houses, and not waste time over our public or commercial buildings, which, it is hinted, are very good in their way, but rather by reproof than instruction on righteousness.

For the latter indeed, even in the memory of most living, have been almost as subject to the short-lived caprices of fashion as the garb of women. Perhaps, indeed, fashion in art is as inevitable as in frocks. They waste life and energy, it is true, doubtless because they change so quickly. In olden days the change was gradual, and, to a considerable extent, natural. The old Romanesque builder started by putting a pointed arch here and there into his work for strength's sake, and may possibly have lived long enough to build a Norman church in his youth and an Early Gothic one in his old age. It is hardly probable, because his adaptability was certainly inferior to that of the quick-change men of our own past half-century, who have more or less suc-

cessfully imitated everything—except perhaps Mr. Bassett Keeling's Strand Music Hall—perhaps because that perished before any of us had time to study its unique "originality" or envied its fantastic effort thereat. Possibly the one extenuating circumstance to be pleaded by us in the style changes of to-day that is more or less apparent is a recognition that "style" is not a fetish, and that a continuity of *spirit* of the past is the hope of the future of all art rather than of its mere forms.

We shall, anyhow, probably not seek to progress by any "conclave" of the sort Mr. Lloyd George talked tosh about, tickling the tympanum, doubtless, of every long-eared listener at the City Temple on Wednesday. Next time he should borrow a dictionary and find out the meaning of the word. The only convclave we know much about is that which elects one of its members as chief of an organisation which, whatever its defects, is ruled with a steadfastness of purpose and supported by a loyalty of adherence equally lacking in leader or led of the motley host swayed by the most adroit but inconsequent of their number.

Our Illustrations.

ADDITIONS TO A GREENWICH MILL.

The accompanying drawing, exhibited this year at the Royal Academy by Sir Aston Webb, P.R.A., and Mr. Maurice E. Webb, F.R.I.B.A., includes a small key plan showing the relative positions of the new extensions terminating with the lofty tower, the old mill to the right being beyond the limits of the perspective. The offices are housed in a low old building on the frontage line next the gateway leading into a wedge-shaped yard for carts' working space for deliveries. Beyond stands the storage block, and to the rear of that the silo.

THE FLETCHER MOSS HOME.

This drawing, recently exhibited at this year's Royal Academy, was prepared before the war for Mr. Fletcher Moss, J.P., the author of "Pilgrimages to Old Homes" and other works. The view illustrates the entrance front, overlooking the main highway. The home has been designed with separate rooms for residents, communicating with a central hall, and is for the accommodation of poor gentlefolk. Mr. John Swarbrick, F.R.I.B.A., is the architect.

HOUSE AT HORNCURCH.

This drawing shows a new house erected at Hornchurch from the designs of Mr. A. Harry Heron, A.R.I.B.A., of Westminster. The perspective was shown at the Royal Academy this year. The plan shows the arrangements of the building.

PROPOSED NARTHEX SCREENS WAR MEMORIAL, HAMMERSMITH.

Mr. Maurice B. Adams' pen-and-ink view with the heralbic colouring on the badges and coats of arms, exhibited this season at the Royal Academy, shows screens as intended to be carried out for the municipal parish church at Hammersmith as the parochial war memorial at St. Paul's. The geometric drawing is from the original sketch detail made when it was proposed to set out the roll of honour in ceramic lettering on the big plate glass panels below, and prior to the decision to make these narthex screens enclose a larger space by extending them right up to the marble columns of the nave arcade. The names instead of being

on the glass are to be done in gilt gesso characters on the upper part of the screens, ranging the roll of honour along the oak panels of the wainscot above the dedicatory inscription on the lower cornice.

POST-WAR ARCHITECTURE AND THE WORLD UPHEAVAL.*

By W. J. DELBRIDGE, A.R.I.B.A.

In an interesting interview granted to Mr. Ward Price, details of which are recorded in the last European mail news, the brilliant Generalissimo of the Allied Forces, Marshal Foch, is reported to have said that the materials of war, like those of architecture, are changing, but the principles remain. The speaker has more than a nodding acquaintance with both subjects, and we are led to reflect upon the influence on post-war architecture of the recent world upheaval.

In every department of human activity, tests of the right relationship of that activity to the rest of human life and effort are being applied in a multitude of ways. It is fitting that we should reckon our duties, our resources and our prospects, and I propose that we should do this by considering the relationship of men in our profession, firstly to the public, secondly to those co-operating with us in the constructive callings, and thirdly, to confrères in our own work.

It is necessary in considering the first part of our theme to thrust aside any misapprehension by the public or ourselves as to the functions which architects are fitted to discharge.

Our work is ocular in its results, and not oral in its methods, so it is obvious that we are neither by training nor questions which can only properly be put to and answered by us in things; hence architecture is almost sure to fail to take the talking interest in political, civic and business organisation which is commonly regarded by the public as a primary sign of concern. There are, however, many ways in which the architect can and should discharge his duties of citizenship.

He represents, as designer, intelligent control of the largest industry outside of agriculture, and in that capacity should never lose sight of his great responsibilities which the clamant demands for a betterment of human relations, within industry thrust upon him. His training should result in his ability to assist in the solution of such problems in civic betterment as are now a constant theme of enquiry among all thoughtful citizens. Let us humbly confess that in these matters we have not risen to the full height of our obligations and our qualifications.

The public appears to question the status of the architect, and to assign that status in three ways. Our work is called an art or a profession or a business, but the truth appears to be that it is something of all three. The design and study that lie behind the creation of our conceptions pertain to art at its highest, and enable us to justly claim for the creative faculties which we exercise as architects the title of the Mistress Art for our work.

It is unfortunate that under modern conditions this artistic effort should be of purely individualistic character, and should thus of necessity exhibit such personal idiosyncrasies as do not pertain to Art, which is a thousand-man deep rather than one. Nevertheless, it is Art, and it is given to few men under the sun so fully to rejoice in all their work and labour which they have undertaken as to ourselves. That is the creator's solace, his joy, his absorption, and perforce his limitation.

The mischief in a broad view is that a large section of our clients imagine that this exercise of the creative ability is the beginning and end of our work, but it is not so. This ended, our professional work begins, and we are then met by the Philistine client, who imagines the architect to be a mere director of building operations: a policeman set in charge of the workers; an estimator; an arranger, an executant, pure and simple.

* The Presidential Address to the Cape Institute of Architects.

This is unfortunate, but still it is incidental to the performance of our duty in a competitive age. Perchance the future will substitute co-operation for competition, but until such counsels of perfection dominate mankind we must do our best under the adverse circumstances that now beset us.

Of architecture, as a business, it is unnecessary to speak at length, but it appears sufficiently obvious to the clients, if not to ourselves, that this is a side of our work to which we do not pay sufficient attention. Many build wholly or partially upon borrowed funds, and if we would "make good" the ground of confidence upon which we desire that our fellows should place us, we must see to it that in estimating the cost of the work which we design we shall not mislead them through slackness, undue optimism, or indifference. We are paid for our work upon a practical, though not necessarily an equitable basis. Ours is probably the worst paid profession in existence. As a class we cannot afford motor cars, and perchance this is because we lose sight of the inevitable business commitments attendant upon our vocation. Our clients do not sufficiently realise that our remuneration is not a material element in the total expenditure to be incurred upon any given work; that a single error of judgment on the architect's part may result in waste totalling a far larger percentage of the expenditure than that devoted to his commission; that efficiency in planning and arrangement may vary to an almost unlimited degree, and that in commercial undertakings an architect often earns his fees many times over upon the savings he effects either in first cost or in upkeep charges. It must be our increasing purpose to show to our clients, the public, that our work is worthy of recognition on the grounds of our fitness for function, our general value to the community, and our worthiness to receive those financial rewards for labour that are part of the common need. If these things become increasingly recognised in the future, I do not think that our clients will have any cause to complain regarding the evasion of responsibilities in connection with artistic, professional or business matters which in critical moments they now allege against us.

Our calling does not advertise, but present and future conditions appear likely to demand that we should adopt some means of publicity whereby the public shall be made aware of the particular qualifications which we individually possess that are worthy of harnessing for the communal or individual benefit. I make this statement with reluctance, but it does appear that in the multiplicity of problems that we are met with in the housing of modern industry, Governmental activity and private life, each architect acquires special technical knowledge. There are now no adequate ways in which he can make known the fact of his distinctive qualifications. This state of affairs demands reflection and the evolution of some method of publicity which will enable the public to retain and ourselves to exercise the special attainments which best fit us for the diverse tasks, the fulfilment of which is demanded by our complex modern life.

Under the second aspect of our theme—that of our relationship to co-operating constructive workers—we should do well to remember that our title of "Architect" means "master workman," and that our vocation can only rise to the highest effectiveness when we loyally and whole-heartedly ally ourselves with all those forces of organisation, labour and material production that go to the making of good work. In mediæval times the client, architect, and craftsman were bound together in a thousand ways that have now been disovered, and great attainment was the result of those conditions which now appear from many points of view to be ideal and Utopian. I believe that it is possible for us even in these days of specialisation to attain a far larger measure of success through co-operation than that which is now manifested.

It is notorious that building contractors are seeking increasingly to provide that work shall be done on a "cost plus" basis, thus throwing the kudos or onus for success or failure

upon the standing of the individual entrusted with the execution of the work. It is highly advisable that the architect should ally himself with this tendency.

A bad builder cannot do good work. If cheap, he employs cheap and ineffective workmen, evades legitimate standards of wages, and uses inferior materials in spite of the most efficient professional supervision conceivable, and misfortune to the client is the inevitable result. There is no necessity to plead that if dear the contractor will not find employment. The spirit of a commercial age will take good care of that. The result of reflection upon this issue appears to be that specialisation is demanded on all hands, and that the architect must ally himself with specialising workers and co-operating activities so as to secure the maximum of rational efficiency in the production of any work that may be entrusted to his care.

The architect's training should be such that he has full understanding of craft training and methods, an effective acquaintance with the organisation of works, and a broadly human view of the mutual responsibilities of employer and employee. The conditions of modern building contracts demand such qualifications, but it can be truthfully alleged that some members of our craft either ignorantly or deliberately evade the calls legitimately made upon them in these relationships. I would like to see a scheme of professional education adopted whereby every architect would be compelled to learn some craft; for we are not image makers merely, nor pictorial artists, nor technical policemen, nor efficiency experts.

A painter of pictures makes a mistake, leaves it, or paints it out, and none suffer material disadvantage from his error or lack of taste. The poet was originally known as "a maker of things," but is now regarded as a framer of words. The sculptor sins, if at all, in ideal or portrayed form. We may sin in all ways, for ours is both a beautiful and a useful art, and sometimes even a mechanical one. It is, therefore, essential that we become acquainted with the manipulation of material with its limitations and possibilities, so that we may rise to the level of Philip Webb, one of the greatest artists in our profession, recently deceased, concerning whom it was said: "To see a design by him was an inspiration to the client, the craftsman and the brother architect, for he reconciled the claims of beauty, utility and workmanship." This is a high standard, but what man has done man can do.

The third aspect of our theme leads to consideration of the relationships that should exist between followers of our vocation. It is said of Callicrates that he served a fourteen years' apprenticeship to his craft before beginning on those works which have ranked him with the greatest artists of the pre-Christian era. The rush of modern life appears to imbue many men with the idea that they can equip themselves for the duties of life within a period of time than can only be described as paltry. Others again, in revolt from this idea, spend many years in equipping themselves in the technique of their vocation. These two ideals are irreconcilable, but it should be possible by co-operation in any profession to lay down certain minimum periods of training. It is the duty, and should be the joy, of all established practitioners to assist beginners in their work.

In the mutual interests, all practitioners should bind themselves together in the most powerful organisations conceivable. Such organisations should consider less the remuneration to be derived from professional effort than high standard of attainment, proper methods of procedure, and that spirit of mutual helpfulness and co-operation without which any calling is placed at a grievous disadvantage by the public. The effect of such co-operation would be to increase individual attainment within our ranks, and to gain a wider measure of sympathy and appreciation.

I remember that the late Poet Laureate once wrote an article entitled "The Growing Distaste of the Many for the Higher Types of Poetry," and that a witty journalist

paraphrased this in "Why are the many few?" I submit that in matters of artistic appreciation the many may be few, because the standard of the artist, as well as that of the critic, is low. Granted that the distaste of the many is a factor to be reckoned with, shall we not also recognise that the standard of the art needs elevation and its practitioners inspiration. Our work cannot be dissociated from the broad principles that govern human life, and if it be true that the best men are those in whom is found a blend of both culture and restraint, it should be possible for us to cultivate and restrain ourselves so as to gain success upon the highest basis. I am of opinion that for us success lies in the cultivation of the highest technique that is open to us, consistent with the development of the imaginative faculty, and if we cherish such ideals our profession will not be a house divided against itself, but a refuge and protection to the public and to those who follow our difficult, but absorbing, occupation.

THE ORIGINS AND SITE OF WESTMINSTER.

In a paper read last week before the British Association at Bournemouth by Miss H. Rodwell Jones, the original importance of the site of Westminster, she said, seemed to have lain in the fact that it formed a sandy eminence rising slightly above the saltings of the Thames flood-plain at a bend in the river where the stream was probably fordable, and where there was an easy passage for boats. There could be little doubt that the Roman surface, which now lay some nine feet below high water, lay originally at much the same height relatively to the level of the Thames as the actual surface did to-day. Whether this change of conditions was due to a gradual sinking of the Lower Thames Basin or to a gradual increase in the rise of tide as a result of embanking it was difficult to decide. Probably both influences had been at work. Thorney Island, on which the Abbey was built, was often spoken of as part of a delta formed by the Tyburn. Geographically speaking, this was an unfortunate description. It was not the habit of the Thames tributaries to form deltas. In almost every case the tributary stream entered the main river on the outer curve of a meander. Westminster flats lay opposite the outfall of the Effra, those of Fulham to the confluence of the Wandle: the formation of the meander being due probably to the inflowing tributary in the first instance. The natural confluence of the Tyburn would seem to have been at the Westminster bend, in the neighbourhood of Whitehall. Once the stream had left the gravel-capped plateau, whose brink lay along Piccadilly and debouched into the flood-plain to the north of Buckingham Palace, its course might easily have been diverted again and again by accident or intention. It might at one time have joined the Westbourne, or its waters might have been turned into one or other of the numerous tidal creeks that drained the flats at low water.

It did not seem possible to determine whether Thorney was a natural or an artificial island, though the collection and plotting of excavation records in sufficient number might eventually help us to some conclusion. The course of the Tyburn in its upper and middle reaches, on the other hand, might be easily traced, and could best be seen on the contoured map sketched from the bench marks and ground levels given on the Ordnance Survey maps of 5 ft. to the mile. A street map, however, that gave minor lanes and alleys would show the line the stream traced clearly enough to the observant eye, and its valley was still fairly obvious to anyone who had the patience to track it out. From the geographical point of view the main interest in the site of Westminster focussed round the work of tidal river and tributary stream in controlling movement and settlement.

The Holbeach War Memorial Committee have agreed to ask Mr. Gamble, architect, Lincoln, to submit some designs for a memorial to be erected on the churchyard site at a cost, to include architect's fees and every expense, not exceeding £400.

FEES PAYABLE TO ARCHITECTS AND QUANTITY SURVEYORS IN CONNECTION WITH STATE-AIDED HOUSING SCHEMES.

The Minister of Health has decided that the fees payable to architects and quantity surveyors in private practice for professional work which may be charged in the accounts of State-aided housing schemes, and rank for financial assistance, shall be according to the scales set out below. These scales have been framed on the assumption that properly qualified members of the respective professions will be employed.

No charge to capital account will be allowed in respect of the preparation of schemes which are not approved by the Ministry of Health.

Special arrangements may be required in exceptional circumstances, but for ordinary cases the following scales of fees and arrangements shall apply:—

I.—ARCHITECTS.

A.—PREPARATION OF LAY-OUT PLANS.

For the preparation of a plan or scheme from existing maps, showing roads, builders' plots and buildings in block, including:—

- (1) Conferences with local authorities and their officials;
- (2) Surveying, levelling, and preparation of contour plan;
- (3) Lay-out plan (where necessary) to 1/2500 scale;
- (4) Detailed lay-out plan or plans to 1/500 scale; but exclusive of the preparation of detailed plans of buildings:

For the first 25 houses, £1 per house.

For the next 75 houses, 10s. per house.

For the remainder, 7s. 6d. per house.

In cases where the number of houses has not been determined, the fee shall be based on an average of 10 houses per acre.

Where a fully contoured plan of the site is provided by the local authority, a deduction shall be made in respect thereof, from the fees above stated, of £1 per acre.

B.—ROADS AND SEWERS.

For preparing working drawings, specifications and quantities for roads and sewers in accordance with the lay-out plans prepared under Section A, advising on the same and on the preparation of contract, furnishing to the contractor one copy of the drawings, specifications and quantities, general supervision, issuing certificates, measuring up, passing and certifying the accounts;

For the first 25 houses, £2 per house.

For the next 75 houses, £1 per house.

For the remainder, 15s. per house.

C.—COTTAGES AND FLATS.

For taking instructions, preparing sketch design, making approximate estimate of cost, preparing drawings and specifications, obtaining tenders, advising on tenders and on preparation of contract, selecting and instructing consultants, furnishing to the contractor one copy of the drawings and specifications, and such other details as are necessary for the proper carrying out of the works, general supervision, issuing certificates for payment, and passing and certifying accounts:—

Five per cent. upon the first 12 cottages or flats.

Two and a half per cent. upon the next 60 cottages or flats.

One and a half per cent upon the remainder.

This scale covers the ordinary variations in type of house and such modifications as are made to avoid monotony in appearance.

Save in exceptional circumstances, it is not desirable that any one architect or firm of architects should be entrusted with more than 250 houses in any one scheme, but the fees payable in respect of each 250 houses shall be calculated as above, whether or no several architects being employed thereon.

II.—QUANTITY SURVEYORS.

For the preparation of bills of quantities:—

Two per cent. upon the first 12 cottages or flats.

One per cent. upon the next 60 cottages or flats.

Three-fifths per cent. upon the next 178 cottages or flats.

Half per cent. upon the remainder.

This scale covers the ordinary variations in type of house, and such modifications as are made to avoid monotony of design.

For measuring variations on the contract and adjusting the final accounts, the remuneration shall be at the rate of 1½ per cent. on additions, and 1 per cent. on omissions brought into account.

The above scale is exclusive of all disbursements in respect of printing, lithography, and other out-of-pocket expenses.

The above scales of fees are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work, including such duties as are involved in complying with the requirements of the Ministry of Health.

The conditions of engagement of architects and surveyors shall be those which are customary in the respective professions; for example, generally, such as the conditions prescribed by the Royal Institute of British Architects in the case of the engagement of architects.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended September 6 was 145, bringing the total number of schemes submitted to 4,635, comprising about 44,500 acres. The total number of schemes approved is 1,495, comprising 18,700 acres.

Some large house-plan schemes from the Midlands were received by the Ministry during the week. Approval has been given to the house-plans submitted by Leek (210 houses), Tipton (190 houses), Quarry Bank (64 houses), and Wolverhampton (24 houses). House-plan schemes from other parts of the country include large schemes from Sunderland (199 houses) and Little Lever (115 houses).

The Ministry, before sanctioning the purchase of a housing site by a local authority, require the authority to consult the district valuer of the Land Valuation Department as to the value of the site. If desired by the local authorities, the district valuers undertake negotiations with the owners of sites. A statement has been prepared showing the results of the 516 cases in which such negotiations had been successfully completed up to the end of August. The total of the sums provisionally agreed upon by the local authorities or asked for these sites was £946,338, the valuation set upon the sites by the Government valuers was £667,972, and the total finally agreed to be paid was £716,870. The saving effected was thus £229,468, representing a reduction of 24.3 per cent. of the price asked or provisionally agreed upon. The area comprised in these 516 sites was 4,093 acres, and the figures worked out per acre are:—Amount asked or provisionally agreed upon, £231; amount of valuation, £163; amount agreed, £175; saving, £56.

Applications in considerable numbers are being received from local authorities for War Service huts suitable for adaptation into dwellings for the working classes. In the case of one town, where people are in occupation of adapted huts, the increasing demand has led the local authority to making an application for a further supply. The Ministry have been able to arrange for huts to be immediately available in a number of cases, and are in negotiation with the War Office with the object of arranging for more huts to be made readily available for acquisition by the local authorities for housing purposes.

As regards the conversion of houses into flats, it is found that about 4,000 houses are considered by the metropolitan borough councils to be suitable for conversion. As expected, the outer suburbs of London do not provide many cases of unoccupied houses considered suitable. The returns received from twenty of the larger local authorities, excluding the authorities within the London County Council area, show that the total number of unoccupied houses which are considered by the local authorities to be suitable for conversion into flats is 382. The number of rooms in the 382 houses is 4,228, or an average of eleven rooms to the house. Inspection of these houses is being made by the London Housing Board.

Building Intelligence.

GRESHAM HOUSE.—The Broad Street front of Gresham House is in process of demolition, to be rebuilt on more modern lines. The present building dates from the middle of the nineteenth century. Sir Thomas Gresham, subject to the widow's life interest, in 1579 left the house and grounds to the City Corporation and the Mercers' Company in trust for the purposes of a college. For the upkeep rents from the Royal Exchange were earmarked to the amount of £740 a year, as against fixed payments slightly exceeding £600, including the fees of the professors, each of whom was to receive £50 a year. Then, as now, the professors of divinity, astronomy, and geometry were appointed by the Corporation side, and those of rhetoric, physic, and civil law by the Mercers' side of the Gresham Committee. The earlier meetings were held at Gresham College until the members migrated in 1710 to premises of their own in Crane Court, Fleet Street. In 1768 the Government acquired the site for the building of the Excise Office. The Gresham professors were accommodated at the Royal Exchange until that building was destroyed by fire in 1838. Then they were housed at the City of London School, Milk Street, and in 1845 they moved to the junction of Basinghall Street and Gresham Street. The Excise administration moved westward, and the building was replaced by Gresham House in 1855. It was designed by Mr. E. N. Clifton. The present rebuilding does not affect the Bishopsgate side of the block. The whole property is owned by the Gresham House Estate Co., Ltd.

LEGAL INTELLIGENCE.

EDINBURGH ARCHITECTS' CLAIM.—Judgment has been issued by Lord Hunter in the Court of Session in an action by Leadbetter, Fairley, and Reid, architects, Edinburgh, against Major Ian Baulhoun, proprietor of the estate of Meggernie, near Aberfeldy, for payment of £1,617 19s. 2d. in respect of professional services rendered by them to him. His Lordship granted decree in favour of the pursuers for £950, and found them entitled to expenses modified to one-half. Several schemes were prepared by the pursuers for the rebuilding and alteration of Meggernie Castle, dating from April, 1909, to December, 1913. None of the schemes had been proceeded with by the defender, whose castle remained unaltered. The defender pleaded that the sum sued for was excessive, and tendered £650 with expenses. His Lordship said that the discrepancies in the views of the skilled witnesses examined were almost greater than usual. Eminent architects did not think that the amount claimed was unreasonable in view of the work done. On the other hand, eminent architects for the defender expressed the view that the charges were greatly in excess of what should have been made. On the best consideration which his Lordship was able to give to the evidence he did not think he was far wrong in awarding £950.

Representing himself to a Clerkenwell woman as a L.C.C. sanitary inspector, Charles Woodman, 43, told her that certain sanitary repairs were necessary, and then asked her to lend him 7s. "Feeling pleased," said counsel at the London Sessions, on Tuesday, "that the L.C.C. were likely to do anything at all, she lent him 10s. There was another case of obtaining £2 by the same means, and Woodman, a pest with a long record of convictions, was sent to penal servitude for three years.

A general meeting of the London and Middlesex Archaeological Society will be held at Twickenham on Saturday, September 27. The programme, arranged by Dr. J. R. Leeson, J.P., F.I.S., F.R.A.S., includes visits to Aika Park Villa, where Dickens wrote "Oliver Twist"; the site of the encampment of the Barons on their way to Runnymede before the signing of the Magna Charta; J. M. W. Turner's house; Marble Hill, built by George II., the house where Tennyson wrote many poems; Orleans House, the former residence of Louis Philippe; Twickenham Ferry, the scene of incidents in "Little Dorrit"; York House, the birthplace of Queen Anne and Queen Mary; Manor House, the residence of Katherine of Aragon and Katherine of Braganza; and the Parish Church, where Pope is buried.

OBITUARY.

We regret to announce the death of Mr. A. Broadbent, sculptor, at the early age of 57. His death will be deplored by many of our leading architects, who recognised his genius, and employed him where possible on their most important works. His carvings were based on the work of Grinling Gibbons, and were of great refinement and character. Among the buildings where his work may be seen, the following may be mentioned with their architect's names following:—Bradford Art Gallery (J. W. Simpson), his first big work; *Country Life* Offices, Houses, St. James Square, and Buildings in Kingsway (Sir E. Lutyens); Church, Kingsway (J. J. Joass); Brompton Oratory. Panel above the statue of Cardinal Newman (H. A. Gribble); Welsh National Library and Eaton Memorial Hall, the latter four statuettes in the Hall (S. K. Greenslade); Oxford and Cambridge Colleges (L. Stokes and T. H. Lyon), Metropolitan Water Board Offices (H. A. Hall); New Zealand Government Offices, Strand, and many others. At the time of his death he was engaged on work for South Africa and Delhi for Sir E. Lutyens, R.A., and Mr. Herbert Baker. His career was commenced at Bradford, of which town he was a native, and continued at the Lambeth Art School and thence in the studios of London sculptors. The Daughters of Pandarus, a marble group, was his last exhibit at the recent Royal Academy Exhibition.

We record with regret the demise of Mr. H. W. Lonsdale, of 3, John Street, Bedford Row. Having in 1864 joined the Architectural Association, he became one of the most active members and helped to inaugurate the "A.A. Sketch Book," to which he contributed several plates in the earlier volumes. For many years engaged by the late William Burges, A.R.A., at 15, Buckingham Street, Strand, Mr. Lonsdale was entrusted with much of the figure work done in the office, and with much of the decorative detail for which Burges was so famous. After his master's death in 1881 Mr. Lonsdale took up the unfinished works then in progress at Cardiff Castle for the Marquess of Bute. Mr. William Frame, also an assistant from Burges' office, remained on for a while as clerk of works. In 1873, in conjunction with the late Edward J. Tarver, Mr. Lonsdale published a standard book of valuable drawings under the title of "Medieval Costume," chiefly compiled from early M.S. and paintings. This volume was an amplification of similar sheets of figure costume included in William Burges' big folio of "Architectural Measured Drawings," with the issue of which Mr. Lonsdale also had to do. He was related to and associated with the late E. C. Lee, the architect of St. Mary's Parish Church, Whitechapel, and they worked together in practice. For many years Mr. Lonsdale designed and carried out decorative schemes, and especially stained glass, figure work being his particular forte. Of a retiring temperament, very few of his capable designs were illustrated. His death appears to have been entirely unexpected, as he passed away a few days since on a holiday, and we are told he was about 78 years of age.

It is estimated that the proposed War Memorial Hall at Huntingdon will cost £8,000, and the County Council are to be asked to provide a site on property recently acquired by them in the centre of the town.

Whilst excavating on the old Roman camping ground on the mountain side near Barmouth last Saturday, workmen unearthed an antique bronze ring and a piece of silver, rare specimens of the old Roman times.

In front of Crookston Public School, Inveresk, Musselburgh, last Saturday afternoon, Colonel Sir John A. Hope, Bart., M.P., unveiled a memorial to some sixty local soldiers, his own neighbours, who had fallen in the war. The monument was executed by Mr. A. Carrick, A.R.S.A.

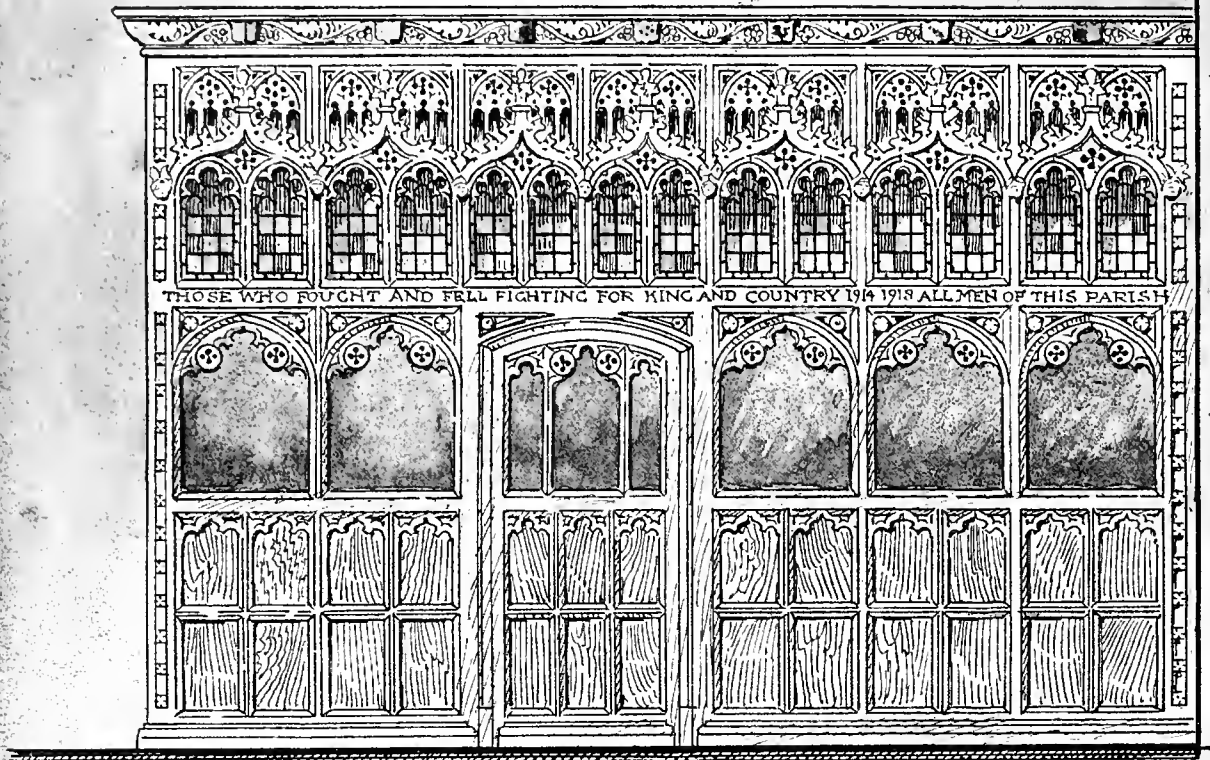
At a public meeting held in the Town House, Montrose, it has been decided to call in Mr. H. S. Gamley, A.R.C.S., Edinburgh, to act as expert adviser and report on the various schemes and suggested sites which are under the consideration of the Committee appointed to carry out the arrangements for Montrose War Memorial.

PARISH · CHURCH · WAR · MEMORIAL · HAMMER

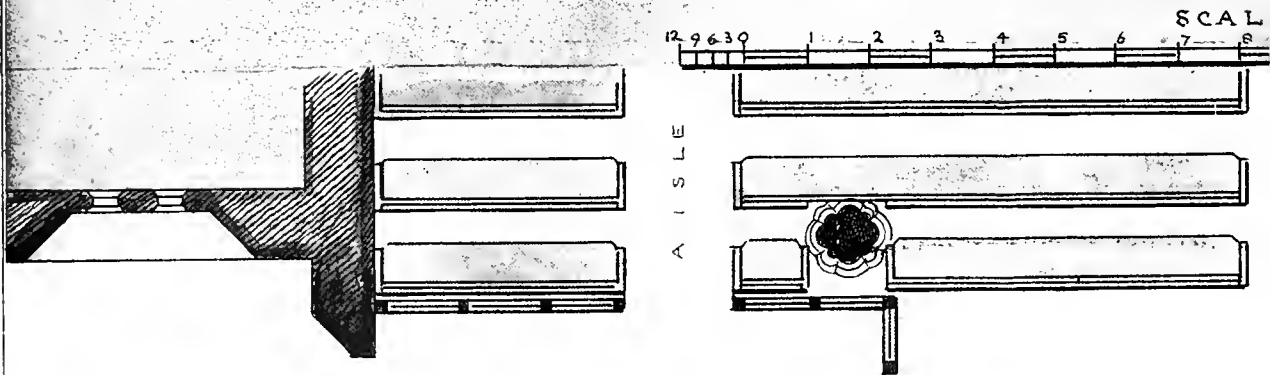
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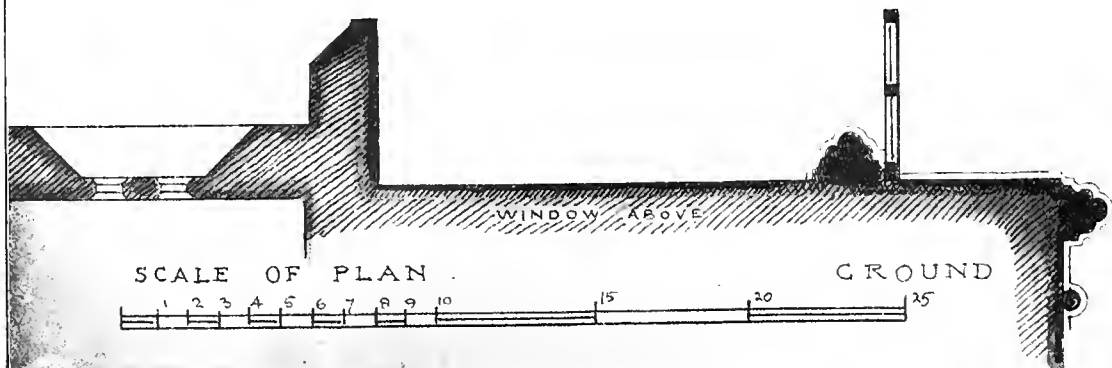


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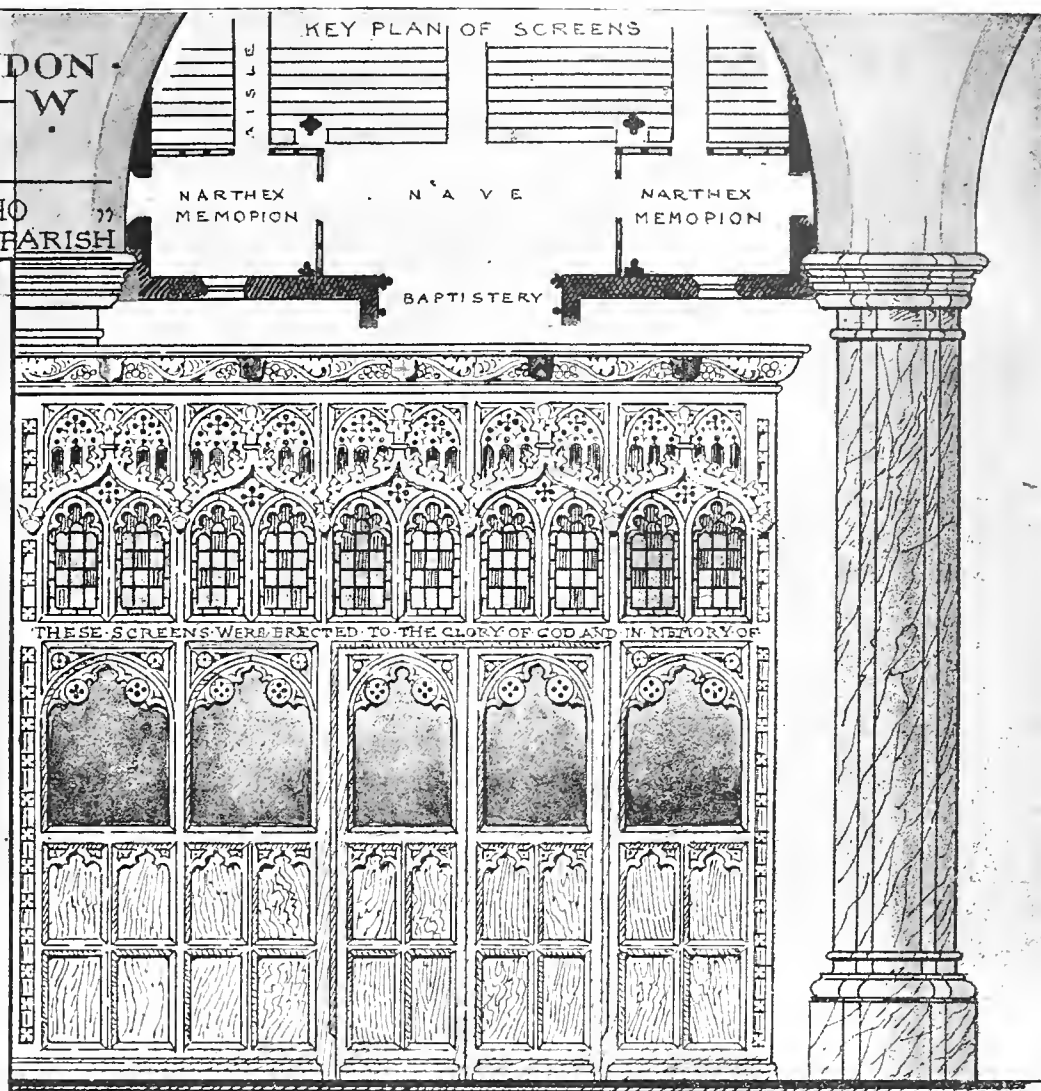


SCALE OF PLAN

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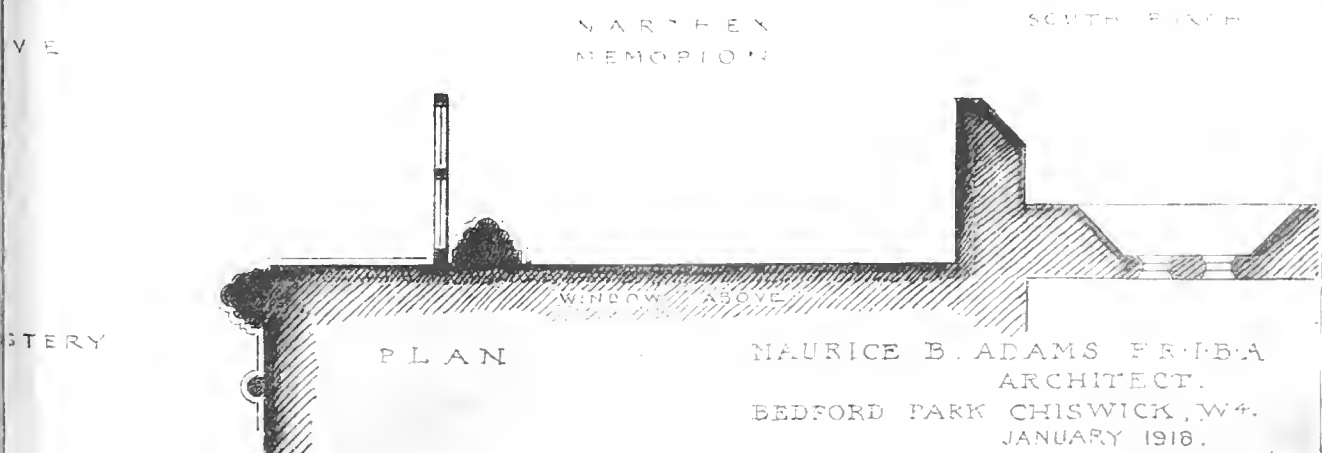
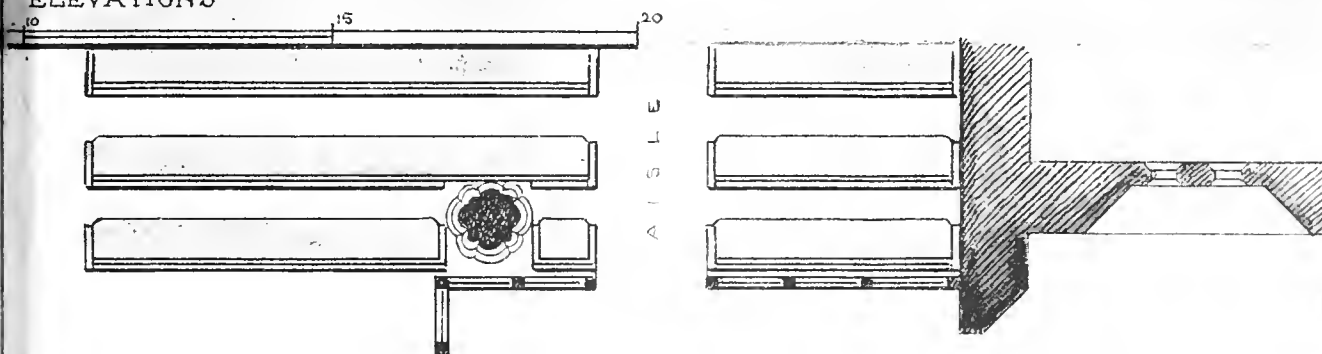
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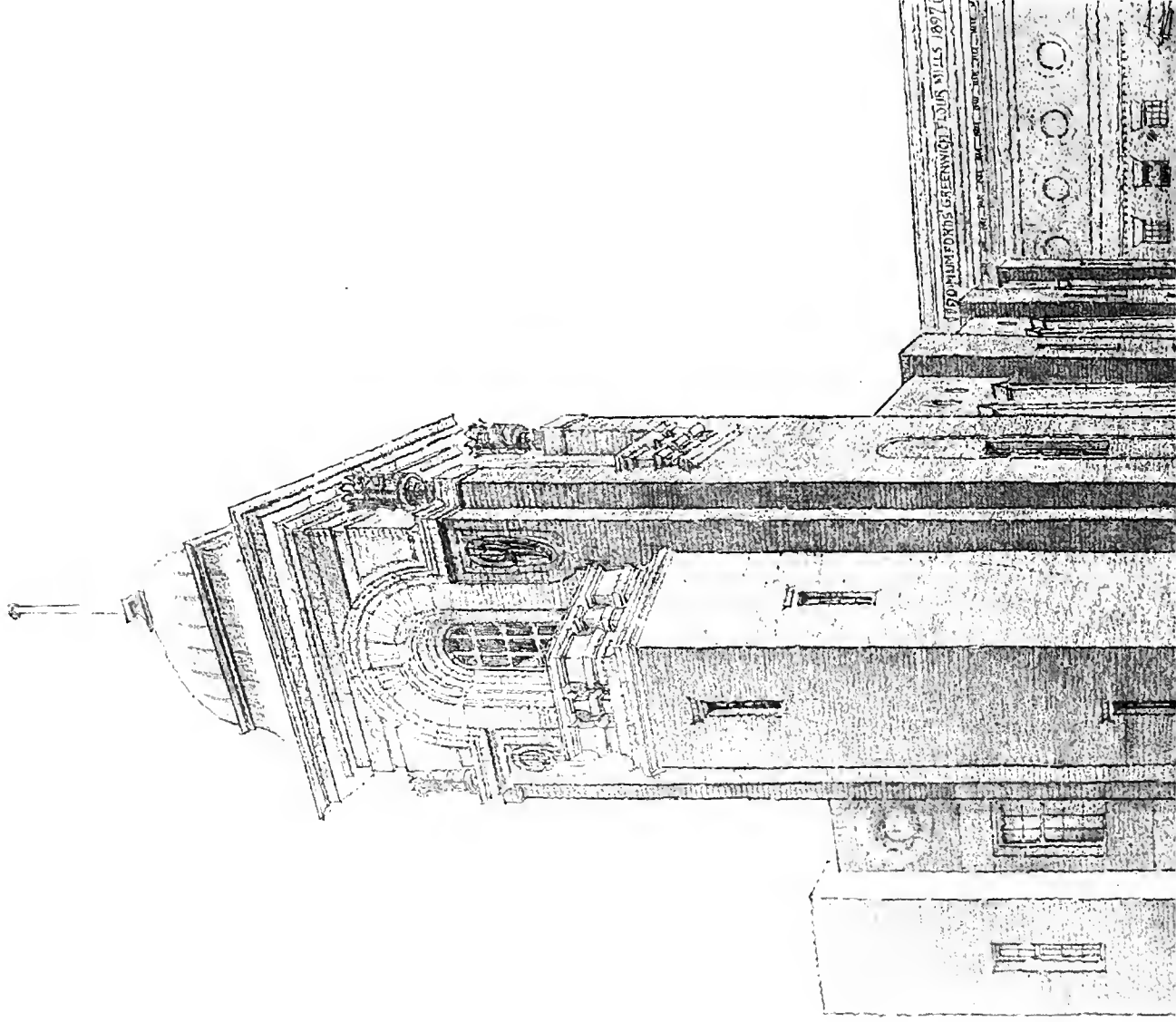
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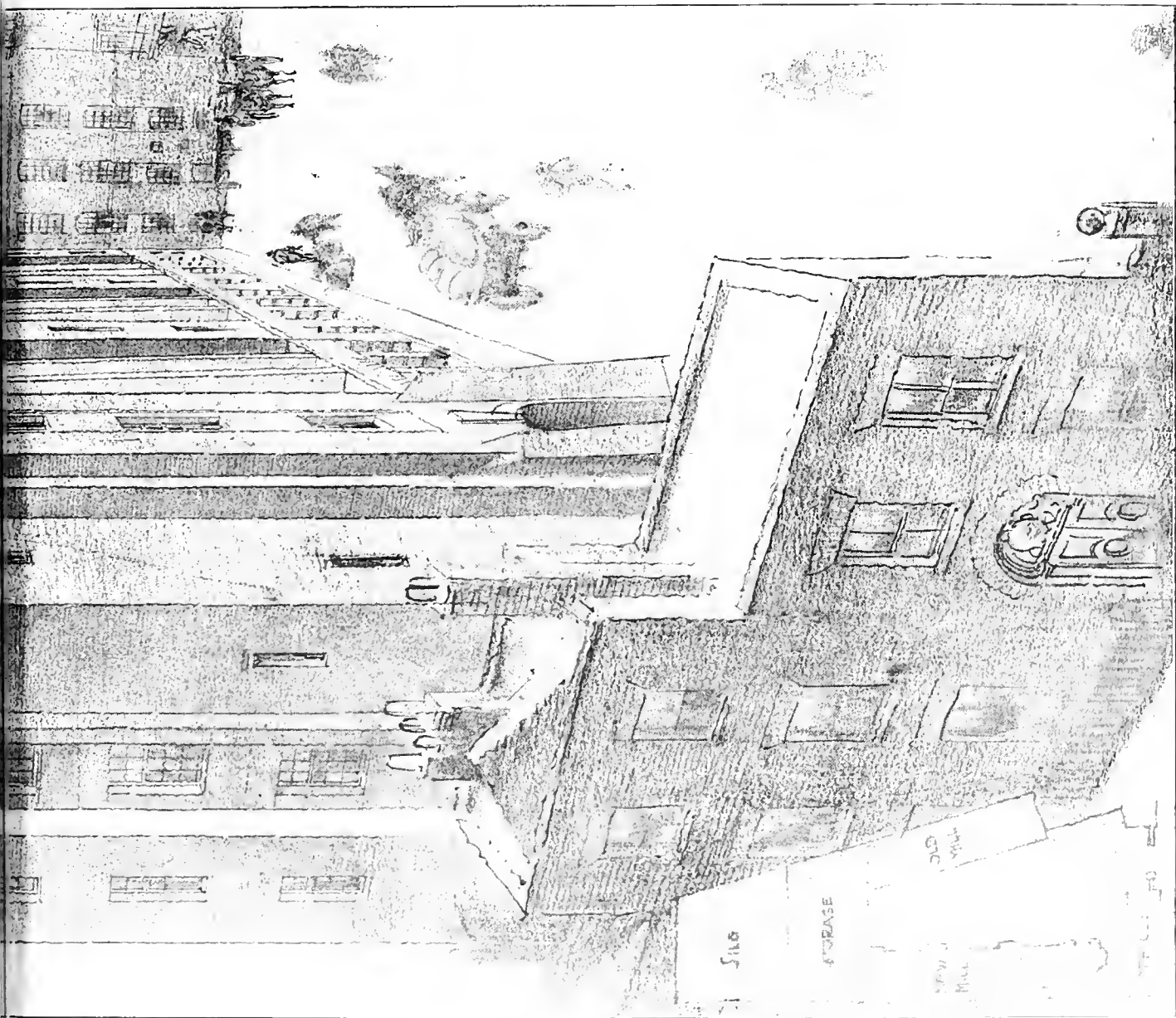
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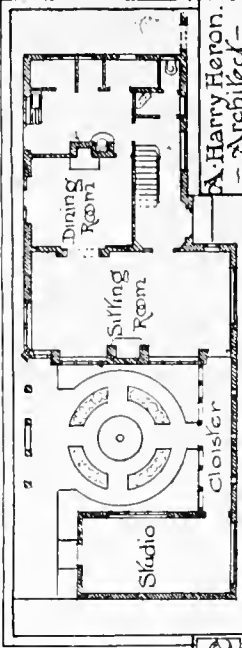
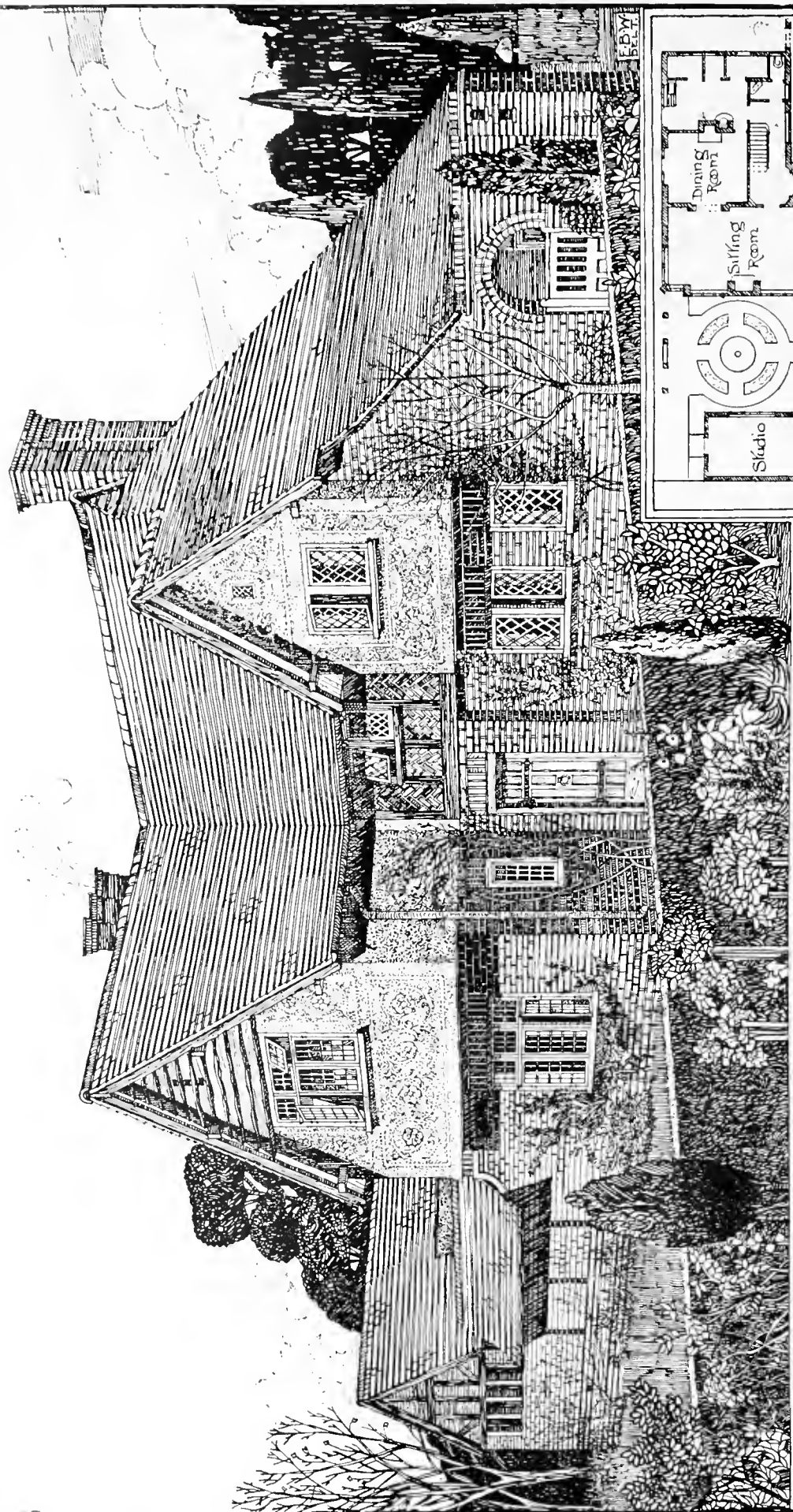
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THE BUILDING NEWS, SEPTEMBER 19, 1919.



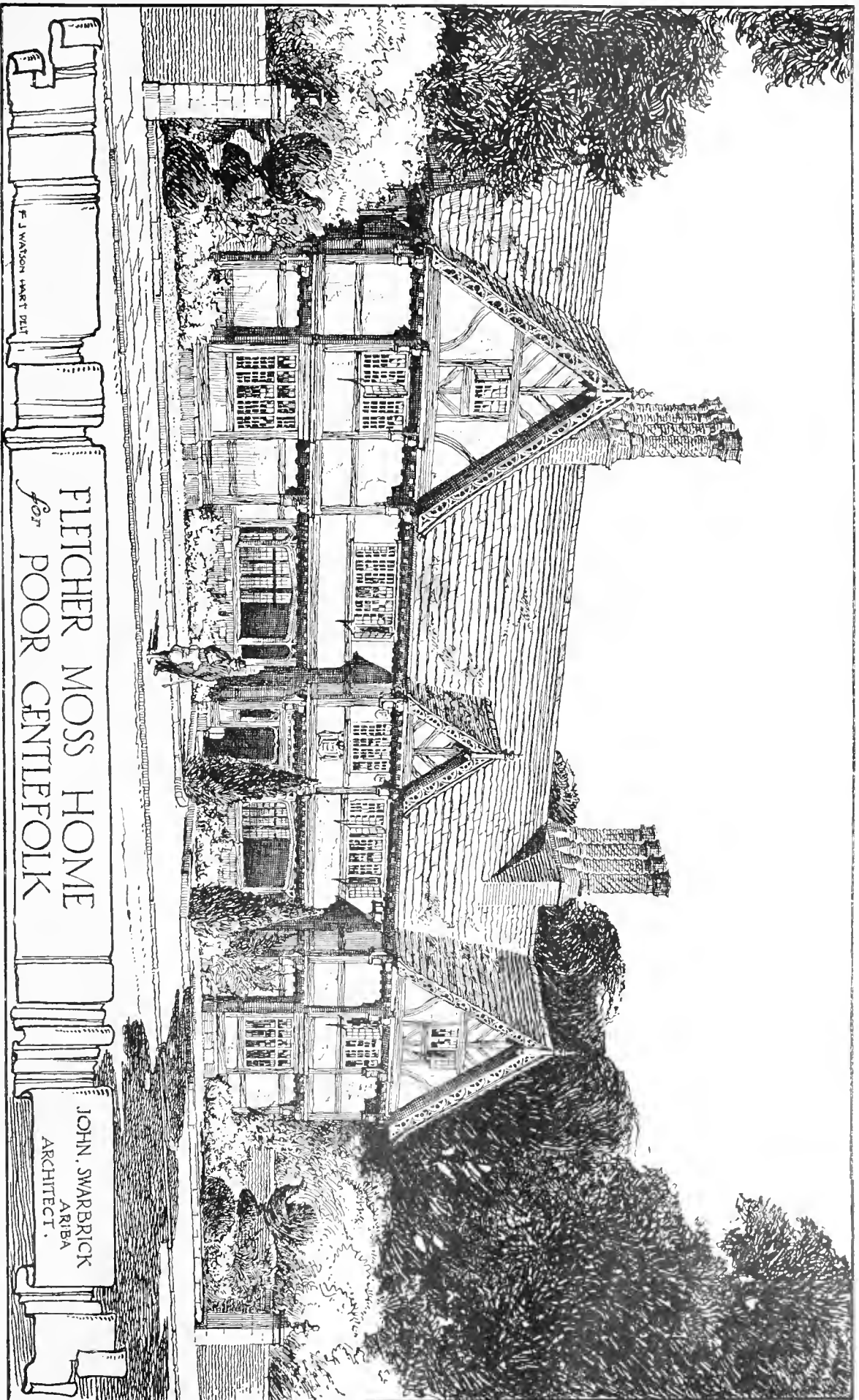


ADDITIONS TO A GREENWICH MILL.



House at Hornchurch for Richard Garbe Esquire

A. Harry Hepson.
- Architect -





Correspondence.

A CENTENARIAN DOOR-SPRING.

To the Editor of THE BUILDING NEWS.

SIR,—Some years ago we brought to your notice a remarkable example of the length of life of an old door-spring made by Mr. William Smith, of 69, Princes Street, Leicester Square, to whom we are the direct successors.

In that case, you may remember, a customer wrote to ask us to supply some new parts for a pair of springs which had been swinging his shop doors for over fifty years.

Our object in reminding you of this is that we have recently had brought to our notice an even more remarkable example of the longevity of the patent "Janus" door-springs.

One of the leading builders in London has been engaged upon some alterations to an old house in one of the squares, and found there a spring made by William Smith and Co. still in use.

From the manufacturing number stamped upon it, it is evident that this spring was made long before the other pair, and has, we judge, been working for upwards of 100 years, and, so far as it is possible to say, the original parts had not been renewed, excepting only, perhaps, the coil spring itself.

The spring is now at our works, and we should be pleased to show it to anyone who may be interested.

We have no hesitation in asserting that this constitutes a record in door-spring life, which must be unique, and your kindly interest in the earlier case has prompted us to inform you of this one.—Yours faithfully,

For SMITH, MAJOR AND STEVENS, LTD.,

PERCY C. MAJOR,

Director.

Abbey Works, Northampton.

UNION AGAINST "DIRECT ACTION."

SIR,—In your issue of September 12 you refer to a circular issued on September 8 by the R.I.B.A. on a subject of public importance, and you suggest that other bodies should be busy now on the lines taken by the Institute. I think it should be pointed out that the Society of Architects took this matter up with its members more than a month ago.—I am, Sir, your faithfully,

C. MCARTHUR BUTLER,

Secretary of the Society.

28, Bedford Square, London, W.C.1.

STATUES, MEMORIALS, etc.

SOMERSET WAR MEMORIAL.—The Marquis of Bath convened a meeting, held at Bath last Tuesday to hear the reasons which have guided the general committee of the County War Memorial Fund in deciding in favour of a monument on one of the hills of Somerset, together with the creation of a fund for the benefit of the dependents and relatives of the men and women commemorated. On the advice of Mr. J. W. Simpson, president of the Royal Institute of British Architects, the committee recommend as the site for the monument Maesbury Castle Hill, near Wells, on the summit of the Mendips, with an altitude of 972 feet. Mr. A. F. Somerville, of Dinder, has offered to give the stone from a quarry within two miles of the Maesbury site. It is estimated that £20,000 will be required to carry out the complete scheme, and £3,000 has been already subscribed.

Eggington, a village in Bedfordshire with only 240 inhabitants, is to have 12 new houses at a cost of £10,000, the view of the Housing Committee being that the only house worthy of the name is the vicarage.

The death is announced, through hearty failure, of Mr. Herbert H. Fuller, of the firm of Messrs. H. H. Fuller and Son, of 15, Serjeant's Inn, Fleet Street, which occurred on Tuesday, at his residence, Palace Court, Kensington. Following his father, who was a well-known surveyor in the City, the late Mr. Fuller carried on an extensive practice as a rating surveyor.

COMPETITION.

GLASGOW HOUSE-PLANNING COMPETITION.

—The awards in connection with the plans and models competition which is to form a feature of the Glasgow Housing and Health Exhibition have been issued. The assessors (Messrs. Jas. Thompson, city engineer, Dundee; A. Horsburgh Campbell, director of housing, Edinburgh; and Thomas Nisbet, master of works and city engineer, Glasgow) in their report to the Exhibition Committee state:—"Reviewing the competition generally, we think there is marked evidence of the interest it has stimulated in professional and technical circles, and the results obtained are such as to enhance that practical value of the Housing and Health Exhibition which the Corporation are now promoting. The material supplied by the designs we premiate or commend will be of value to the cause of housing, and they are a practical contribution to the science of estate development, conform to modern requirements of town-planning and lay-out of garden suburbs for the working classes on model lines." The awards are as follows:—I. Lay-out of land of Kennyhill, Riddrie, Blackhill, and Lethamhill, with plans, etc., of houses:—1st premium (£400), no design of sufficient merit; 2nd premium (£250), A. T. Scott, London; 3rd premium (£150), F. L. Thompson, A.M.I.A., C.E.; Reginald Dunn, M.T.P.I., and S. P. Taylor, A.R.I.B.A., London; 4th premium (£100), C. H. Morton, A.R.I.B.A., London. II. Lay-out of land at Coplawhill for three-storey tenements, with plans of houses:—1st premium (£150), Cruickshank and Seward, Manchester; 2nd premium (£100), no design of sufficient merit; 3rd premium (£50)—the assessors recommend this premium should be awarded to each of W. E. C. O'Venden, Rugby; and M. Stark, London. Extra awards of £25 each to Chas. Mitchell, M.S.A., Edinburgh; and Wm. Friskin, A.R.I.B.A., London. III. Lay-out of lands of Mossbank:—1st premium (£150), F. L. Thompson, R. Dunn, and S. P. Taylor, London; 2nd premium (£100), Jas. Goutts, Aberdeen; 3rd premium (£50)—the assessors recommend this premium should be awarded to each of H. Slicer, London, and Wm. Friskin. IV. Lay-out of lands between Shettleston and Tollcross:—1st premium (£200), F. L. Thompson, R. Dunn, and S. P. Taylor, London; 2nd premium (£100), and 3rd premium (£50), divided between A. J. Price and Sons, Lytham, and Harold Slicer. V. Improving partly developed area lying between Springburn Road and Springburn Park—lay out design:—1st premium (£200), J. B. Brodie, M.I.C.E., Glasgow; 2nd premium (£100), no design of sufficient merit; 3rd premium (£50), W. A. Robertson, Glasgow. VI. Model with relative plan of semi-detached cottages of four or five apartments each:—1st premium (£100), David Skinner, Glasgow; 2nd premium (£50), W. E. Bannister, Newlands, Glasgow; 3rd premium (£25), Chas. G. McGibbon, Glasgow. VII. Model, with relative plan of two-storey block, containing two houses of three or four apartments in each storey:—1st premium (£100), D. Lawrie, Glasgow; 2nd premium (£50), Jas. W. Reid, Paisley; 3rd premium (£25), D. J. Cameron, Glasgow. VIII. Model, with relative plan of a two-storey block, containing four houses of three apartments in each storey:—1st premium (£100), D. J. Cameron; 2nd premium (£50), no award made; 3rd premium (£25), no competitor; special award of £25 for models of this and competition VII. to W. E. Bannister. IX. Plan of house with fittings and equipment:—1st premium (£100), M. Stark; 2nd premium (£50), and 3rd premium (£25), dividend between Lieut. A. Douglas-Smith, Australian Flying Corps, architect, Sydney; D. J. Cameron, and W. A. Robertson.

Middlesex County Council has decided to spend £64,000 on a sanatorium for tuberculous patients.

Designs submitted by Mr. J. J. Joass, of 10, Burlington Street, W., have been placed first for the war memorial at Ilkley, which comprises the erection of a cenotaph and the laying out of grounds at a cost of £3,500. Mr. W. Brierley, of York, was the assessor.

PROFESSIONAL AND TRADE SOCIETIES.

THE CAPE INSTITUTE OF ARCHITECTS.—The Kalendar of the Cape Institution of Architects for its twentieth session, 1919-1920, is a satisfactory résumé of the past session and a hopeful forecast of that just commencing. The membership now numbers 70 Members and 26 Associates. The financial statements are satisfactory. The President is Mr. W. J. Debridge, A.R.I.B.A., the Vice-President Mr. F. K. Kendall, F.R.I.B.A., and the Secretary Mr. T. A. Dalgleish, of Markham's Buildings, Cape Town, where the meetings are held monthly from April to November. We give elsewhere the last Presidential address. A Conference was held last January in support of the Architects' Registration Bill, which the Institute is promoting, at which a number of approving letters were read from architects in various parts of South Africa, and the following resolution passed that: "This Conference pledges itself to do all in its power to bring about the promotion of an Architects' Act upon the lines before resolved, and for that purpose further agrees to nominate an Executive Committee to act on behalf of the architects of the Cape Province and O.F.S. to draft the detailed terms of such Act in accordance with the principles before resolved upon; such Executive Committee being hereby instructed to co-operate harmoniously with all architectural organisations in the various other Provinces of the Union of South Africa to the end that such proposed Architects' Act shall speedily be presented to and passed by the Union Legislature. For this purpose the said Executive Committee shall have power to act conjointly with delegates who may be appointed by the said architectural organisations, and further to decide upon and act in respect of all financial considerations, necessary legal steps, and other matters connected with the promotion of the proposed Act." Mr. Payne (Durban) moved: "The Executive Committee as representing this Conference, and hereby appointed, shall consist of nine members, being the following: Messrs. A. H. Reid, Cooke, Kendall, Morris, Debridge, Fallon, Hougham, Perry, and Black." This was agreed to.

Messrs. Gardiner and Theobald have removed from 110, Great Russell Street to 96, Gower Street, W.C.1 Tel. 1427 Museum.

Under the sanction of the Ministry of Health, the old Marylebone Town Hall has been sold to Messrs. Debenhams, Limited, for the sum of £27,000.

The chairman of the Isle of Wight Education Committee states that the committee have been unable to get repairing work done in a number of schools, though hundreds of men on the island are drawing unemployment donations.

While making excavations for new buildings in Market Place, Coventry, the workmen found ten glazed black and brown jugs, probably not of great age. A subterranean passage leading from the excavations suggests that the priory cellars extended to the market place.

The Welton Rural District Council have appointed Mr. C. E. Harris, of Brentwood, Essex, as district surveyor, in succession to Mr. Starkie, who has been chosen assistant county surveyor of Cheshire. Mr. Harris's salary has been fixed at £160 per year, with £50 per annum war bonus, and £30 for travelling expenses. There were no less than 97 applications for the post.

Contractors engaged in Government building in the United States of America whose bids had been accepted prior to the declaration of war will be reimbursed for any losses suffered by them through increased cost of material, delay on the part of the priority board or to commandeering by the Government, under a bill passed by the House and sent to the Senate.

About 2,000 square yards of land on Prenton Hill were recently presented to the parish council as a site for the erection of a war memorial. Designs for the memorial have now been prepared by Messrs. Briggs and Thornely, of Liverpool. It will take the form of a small village green, surrounding an Elizabethan village cross, on which the names of the fallen will be inscribed. The monument is to be constructed of Shoreham stone, and the cross, which will attain a height of thirty feet, will be mounted on a circular base of stone steps thirty feet in diameter.

Our Office Table.

The improvement shown in the results of the British Portland Cement Company is considerable. After providing £75,000 for general depreciation, an increase of £25,000 over the previous year's allocation, the balance of revenue is £185,200, or £16,703 larger, and the disposable total at £272,900 compares with £241,500 a year ago. The ordinary dividend, which was raised from 4 per cent. to 6 per cent. last year, is further increased to 8 per cent., and a balance of £91,500 remains to be carried forward. The directors say there was a good demand for cement for war work until the signing of the armistice, when Government contracts were suspended, and the home trade fell off. This, however, was counterbalanced to some extent by the resumption of the export trade. The relationship between the company and the Associated Portland Cement Manufacturers has been knitted closer by the adoption of a scheme of joint management. It is proposed to divide the existing £10 preference shares into ten of £1 each.

"It is notorious," remarks the *Daily Chronicle*, "Cobblers' children are ill-shod, and one should not be surprised, perhaps, at the treatment which is just now being meted out to the building in Buckingham Street, Adelphi, which houses that most useful institution, the Society for the Preservation of Ancient Buildings. It is a fine, very early 18th century house, with a front of London stock bricks with coigns and window dressings of red brick and horizontal bands of moulded red brick. It is now undergoing a process known as 'tuck pointing.' The joints are raked out and filled in with mortar, and the whole front covered, like a doll's house, with red or yellow wash. To complete the doll's house simile narrow false white joints are put in with lime paste. In certain quarters of the town this reprehensible method of dealing with 18th century houses has become fairly common, but one must be permitted a mild expression of regret, if not of surprise, that the building housing William Morris's famous society should have been allowed to fall a victim to it."

The first Order under the Profiteering Act was issued by the Board of Trade last Friday, and is dated September 11. It comes into force forthwith, and is signed by Sir Auckland Geddes. The articles with which the tribunals are empowered to deal are as follows:—All household utensils and requisites, all articles for mending and knitting, all articles of furniture (excluding antique furniture), and all building materials.

Captain Vaughan Williams has made further interesting discoveries at the supposed site of Edward the Confessor's Palace in Windsor Great Park. He has found the wall of a courtyard, and 65 yards in length on a south-east by north-west front, and is found to be perfectly square. The foundations are of flint and chalk. One of the old brick walls which supported the drawbridge has also been unearthed in a splendid state of preservation. Its bricks are 13½ in. in length, 4 in. wide, and 3½ in. thick. They have no recesses for mortar like modern bricks, which are only about 9 in. long. A modern drain has been cut through the spot where the other wall of the portcullis is thought to have been. Among other interesting discoveries Captain Vaughan Williams has found a specimen of Saxon pottery, and also some antlers, which powdered to dust on being handled. Captain Vaughan Williams is trying to trace the tower of the Palace in the centre of the courtyard, and hopes very shortly to have laid bare the whole of the courtyard wall.

A device to obtain the best effects from a radiator was described last week at the meeting of the British Association by Professor G. H. Bryan, of University College, Bangor, who said that his application of the Aerofoil theory to the heating of buildings occurred to him while working at the mathematical theory in connection with aeroplanes. The results obtained had agreed with the

theory far better than was anticipated. His proposal was that over each radiator in a public or private building there should be placed a deflector arranged at an angle to be determined by experiment. In the ordinary way said Professor Bryan, hot air from a radiator was drawn up towards the window—for some reason he did not know radiators always seemed to be placed beneath windows—and so passed away from the interior of the room. With the deflector in use, however, the hot air passed from the under side into the room, while the mass of cold air between the outer side of the deflector and the window formed a non-conductor and prevented the hot air from escaping through the window. It was essential that the deflector should have a sharp edge, so that a free stream of hot air could be secured. With a rounded edge eddies of hot air were produced, which did not carry so far into the room.

The much-discussed Barnard statue of Abraham Lincoln which has been presented to Manchester was unveiled on Monday afternoon by the Lord Mayor of the city in the presence of a large assembly. The site is in Platt Fields Park, about two miles from the Manchester Town Hall. The Lord Mayor was accompanied by Judge Parker, Chancellor of the Sulgrave Institute, who represented Mr. and Mrs. Charles Phelps Taft, the donors of the statue, and Mr. J. W. Davis, the American Ambassador in London, who had specially travelled to Manchester to attend the ceremony. In his address, Judge Parker said the Sulgrave Institution was able to make this presentation because one of its Governors, Mr. Charles P. Taft, and his good wife, gave the statue, which was the work of the famous sculptor, George Grey Barnard.

A timber merchant buying a tree usually offers one price for the bole and half that price for the limbs. In his eyes a tree cannot have two boles; so if the tree has branched near the ground and two trunks have grown, one of them is the bole and the other a limb. To measure a bole, says the *Agricultural Gazette*, take a quarter of the average girth in inches, deduct one inch for bark for each foot of circumference (this varies with different kinds of trees), and multiply the result by itself. Multiply this by the length of the tree in feet, and divide by 144. This gives the number of cubic feet of timber contained in the bole.

There is something heartening, says the *Manchester Guardian*, in the hustle of the workmen and the sharp ring of the trowel in a certain suburb of Manchester, where an enterprising builder has begun the erection of "houses to suit purchasers." The other day a nine-year-old schoolboy, who passes the scene daily, asked an adult friend: "What are these pieces of wood stuck up there for?" Feeling some surprise at the boy's ignorance, the elder replied that they were the frames for doors and windows. It was only after reflection that the man discovered that the boy had never before seen the work of house-building in progress, and realised that the war has robbed boys for five years of the perilous delights of joist-striding and ladder-climbing which he himself had enjoyed.

The allegations of housing horrors at Rosyth have been confirmed. It is declared in the report of the Health Committee (appointed in consequence of complaints from the Scottish Board of Health) that the air and water supply at Rosyth are impure; the site of the town is unsuitable, as the clay soil is malarial, and it is almost beyond human comprehension that the Government could have embarked financially upon such a site, which must prove sooner or later to be a death-trap. The ventilation of the houses and the system of sewerage removal are defective, and in many instances houses are overcrowded and the health of the inmates endangered. In the brook which runs through the village were found a number of dead rats, two dead cats, a dog's skin, the carcass of a dog, and the decomposed remains of some animal which could not be identified before being buried by the sanitary inspector and his burial party. Rats swarmed all over the place and into the houses, and it was a wonder that no disease such as cholera had broken out.

An evening course on town-planning, to be held during the coming season, has been arranged by the School of Architecture which is connected with the Manchester University, the Municipal School of Technology, and the School of Art. The course comprises twenty lectures and twenty studio classes, and such different aspects of the subject will be dealt with as town planning, municipal engineering, housing, the historical development of the housing question, and civic law. The lecturers include Mr. H. V. Worthington, Professor J. Radcliffe, of the School of Technology; Professor D. H. Macgregor, of the University; and Mr. P. M. Heath, the deputy town clerk of Manchester, while the studio course at the School of Art will be conducted by Professor A. C. Dickie, of the University, and Mr. J. Lindsay Grant.

A *Times* correspondent states that the church of the lonely island of St. Kilda, the most westerly of the Hebridean group, which was bombarded by the German submarines in 1917, is now being repaired. In the early days of the war the island was frequently visited by the German submarines, the crews of which did not molest the inhabitants; but in 1917, when a wireless station was erected on the island, the submarines bombarded the station, wrecked it, and bombarded the little church and the houses of the islanders, knocking them to pieces. The islanders took refuge in the inaccessible parts of the island till the bombardment was over. Subsequently big guns were mounted on the island for its defence. Before the wireless station was wrecked by the Germans the telegraphist got away the news of the bombardment.

The City Officers have now presented their report on the City Corporation's proposal to erect 13 blocks of dwellings in South-East London for about 1,000 persons, and 2,000 houses between Higham's Park and Chingford to accommodate about 10,000 persons, at a total estimated cost of over £2,000,000.

The City Engineer (Mr. E. E. Finch) says that, taking all points into consideration, the nature of the soil, the accessibility of the site to existing railway communications direct to the City, the proximity to good existing shopping centres, tramway service, the excellent natural formation of the site, and the economical drainage to which the land lends itself, he knows of no undeveloped land in this section of Greater London so suitable for the scheme as the proposed site at Chingford. The Technical Commissioner to the London Housing Board has intimated general approval.

Messrs. Monk and Newell's Terra Cotta Brick and Tile Works, Ruabon, which have been idle since the outbreak of war, have been acquired by private treaty by a Liverpool syndicate. The property, which covers thirty acres, was offered for sale by auction at Manchester about three months ago, but there was no bid. The manufacture of bricks, tiles, etc., will start at once on a big scale, and large numbers of brickmakers who have hitherto been receiving out-of-work donations will be given employment. The works are fully equipped for the production of between 25,000 and 30,000 bricks a day, in addition to a variety of tiles and terra cotta goods, and the new owners have secured the services as general manager of Mr. C. Morgan, J.P., who was engaged in a similar capacity with Messrs. Monk and Newell for thirty-six years.

A meeting was held at St. Mary's Church Hall, Peterborough, on Monday week, to consider the question of the parish war memorial, and it was decided that it should take the form of a reredos in the church, the centre of which would be a representation of the Crucifixion.

At a public meeting of the inhabitants of Moffatt it has been decided to select the design representing the market cross, by Mr. Reginald Fairlie, architect, Edinburgh, for a war memorial to be erected on High Street. The monument will be constructed of Corsehill or Ravelstone stone, with the Annandale crest—"The Flying Spur"—in bronze at the top of the shaft, and space provided at the base will be occupied with the names of the fallen. The estimated cost is approximately £750.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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Strand, W.C.2

OUR ILLUSTRATIONS

New Westminster Hospital proposed to be erected facing Clapham Common on "Church Buildings" site. Messrs. H. Percy Adams, F.R.I.B.A., and Charles H. Holden, A.R.I.B.A., Architects. Perspective view and plan.

Church of St. John, Southend, Lewisham, S.E. Plan, elevations, and sections. Sir Charles A. Nicholson, Bart., M.A., Oxon., F.R.I.B.A., Architect.

The Village Street, Petit Audely, Normandy. An etching by Miss Katharine Kimball, Royal Academy, 1919.

Currente Calamo.

Long ago we insisted that, without subsidies and without adding to the burdens of the ratepayer, the Government might have set builders to work in real earnest on the workers' houses, simply by facilitating the opportunities of the speculative investor. In last Tuesday's *Daily Mail* Mr. A. G. Westacott, the secretary of the Builders' and Merchants' Association, sketches a perfectly practical scheme for the issue of Housing Bonds to the financing parties to an amount not exceeding one-third of the total cost of the housing scheme, payable at par, say twenty years from the date of issue, and meanwhile bearing interest at 5 per cent. and carrying the joint security of the Government and the local authorities. Taking the pre-war cost of a working-class house at £375 freehold, the pre-war rent of which, at £22 10s. per annum, would have given the owner 6 per cent., he shows that, by his scheme, of the present cost, £750, one-third would be borne by the State, and that on this portion of his money the financing party would get 5 per cent. for twenty years, and then payment in full, so that the net cost to him of house and land would be £500. An increased rent from his tenant of £30 per annum would show him 6 per cent. clear on his capital. If built for immediate sale and not for investment, the procedure would be the same. The house would sell for at least 50 per cent. above pre-war price, and the demand for houses would bring speculators into the market for at least a year, after which the diminishing profit would naturally slacken building operations. Under such a scheme the nation would pay nothing down at the outset, the ratepayers would not be saddled with the penny rate, or the ultimate losses which will in the near future further increase rates, and no expensive Government Department would have been necessary. Objections to the scheme will, of course, be numerous from officialdom, but we should not be surprised to learn that by some such means the Dutch have built their houses while we have been talking about it, as Mr. W. A. Appleton told us in his article which we quoted on page 236 of our last issue, without Ministers, officials, or inquiries.

Those of us who have been through the mill will smile grimly at "Ex-Officio's" faithful picture of the grinding process in the *Westminster Gazette* of Tuesday last. "Imagine the sad case of the contractor who is being pressed by the Government to double his output. There were hundreds such. He can only do so by extending his factory buildings. He was not allowed to extend, beyond an expenditure of £500 (a useless sum), without sanction duly signed and sealed. He had accordingly to approach No. 1 Department (carefully hidden) for preliminary discussion. After much written debate he is told he may prepare rough sketch plans for further consideration. He submits, at some cost, rough sketch plans. They are adversely criticised by No. 1 and redrawn. Finally, after many fruitless attempts to see No. 1, (the contractor lives in, say, Newcastle, and comes up specially), he is given benediction. At this stage all the papers, plans, architect's priced specification, and bill of quantities are lost in some 'registry,' and there is 'no trace' (the watchword of the office) for three weeks. They turn up, besmeared with irrelevant hieroglyphics, in Department No. 2 (technical experts), the next milestone, who again send for the contractor to show just cause why, etc. Three weeks elapse. They then go by circuitous route to Department No. 3—a very august department, who only sits in cold deliberation once a week. Here a representative of No. 1 is sent for, and is invited to produce a just cause or impediment why the factory buildings should not be joined together in ferro-concrete. But No. 1 has been galvanised into some keenness at this stage, and pleads a cause. He happens to be a popular man, and so the scheme goes through, unscathed. It then travels, in the fullness of time, to No. 4, who, having vested interests, argue as to the disposition of the material required. Eventually the contractor, who has since grown a beard, receives a 'Licence to Extend.' But, alas! the wholly unauthorised factory is already erected to the eaves, by a complex process of illegitimate wangling, and the Department concerned gets its craved output."

The Trades Training Schools of the Carpenters' Company at 153, Great Titch-

field Street, W.1, under the able direction of Sir Banister Fletcher, F.R.I.B.A., as most of our readers know, do very necessary, and in some ways unique, good work in the training of boys and youths in the various skilled trades, and this session, which commenced last Monday, Sir Banister Fletcher hopes to have a number of disabled sailors and soldiers at the schools, and so help them and the national work of training them for future occupations. There are three terms in the session, and the fees are nominal—five shillings a term for adults and three shillings a term for apprentices. The classes include carpenters, joiners, handrailers, masons, glaziers, painters and decorators, plasterers, plumbers, smiths, stone carvers, life class, tilers and bricklayers, wheelwrights, wood carvers, and electricians. All classes are held from 7 to 9.30 p.m., and the workshops are open for work on the evenings on which classes are not held, Saturdays excepted. An examination is held at the end of the third term, when medals, prizes, and scholarships are awarded. We urge all employers of labour in the trades listed to do their very best to encourage their apprentices to attend these classes. The present lack of really skilled labour is too apparent to all to need comment, and every effort to better matters so far as the coming generation is concerned deserves the most liberal support. The Carpenters' Company has been to the forefront for years in educational provision for the encouragement of craftsmanhood, and it has been fortunate in the co-operation of efficient instructors. Self-interest alone should enlist the co-operation of every master-craftsman or firm in the industries where skilled craftsmanhood is so indispensable and so scarce.

It is consoling, at any rate, to read the letter in last Monday's *Westminster Gazette* from Mr. Herbert W. Matthews, the architect of the new London Flying Club at Hendon, one of the most remarkably complete undertakings of the kind yet conceived, in response to a friendly notice by Mr. Edgar Greenwood in the same journal, who wanted to know how, in these difficult times of getting building materials and work done, the erection of this building has been accomplished. Says Mr. Matthews: "No Government

Department or any other authority has assisted in obtaining either labour or materials. The whole has been obtained by the exercise of ordinary business methods, and maybe it is due to the absence of Government assistance that the building has been completed with such expedition and with such satisfactory results. Mr. Greenwood's suggestion that the building of the London Flying Club has hindered repairs to houses in coastal towns or the provision of new houses strikes one as a comment made without consideration. There has been no undue competition in obtaining labour for building, and if there were similar enterprise shown by persons responsible for or interested in the repair to old, or the provision of new, dwellings, they would have had no more difficulty in obtaining either labour or materials than has been experienced by us. It merely requires energy, the absence of procrastination in policy, and the dispensing with 'red tape.' Mr. Greenwood's views are those of every good citizen who desires that the dearth of habitations shall be made good, and particularly that the men who have fought for their country shall have homes to inhabit, and in this connection it is not inappropriate that accommodation has been provided without delay for the comfort of 'flying' men, whose gallantry in at least as great a measure as in any other branch of the Services brought about a victorious termination of the Great War, and the promoters of the London Flying Club may, I think, be congratulated in their enterprise without the Government's assistance, as suspected by Mr. Greenwood, in having made this provision." And, equally, we think, on the aptitude of their architect. The R.I.B.A. might invite his aid as adviser to the somewhat pessimistic committee whose deliberations we comment on elsewhere. They may not be "idealistic," but they will be found advantageously more business-like than any on the lines of the Building Trades Parliament!

An interesting test case under the Temporary Wages Act, 1918, was further heard at Shrewsbury last Saturday before Mr. J. B. Simmons. The case was one in which a sawyer in the employ of Messrs. Barker Brothers, timber merchants, Shrewsbury, made a claim against the firm for having reduced his weekly wages at the time when the working hours of the sawyers in their employ were reduced from 53 to 47 per week. The matter had been taken by the firm to the Interim Court of Arbitration, who decided that the prescribed rate of wages for the Shrewsbury district was 1s. 1d. per hour for sawyers, and the Tribunal were now required to decide whether such a rate had been paid by the firm. The chairman said the figures before the Arbitration Court showed that the firm had paid their sawyers higher wages than at the prescribed rate of the district, and therefore the case would be dismissed. Mr. Edwards, representing the claimant, argued that, although the working hours

were reduced, the firm were not entitled under the Act to reduce the man's wages; but the chairman replied that the firm could not be held responsible for the diminution in the earning capacity of the workman, resulting from a reduction in the working hours.

The housing question is so beset with difficulties that no sooner is one settled than another comes to the fore. In a London suburb four blocks of flats arranged in squares are prevented from being occupied because there is no means of lighting them. This trouble arises because there are two lighting authorities concerned. The flats are situated on the border line of the two authorities, one an urban district council and the other a company. The district council has no main within about half a mile, and the cost to the builder of taking a main to the flats is prohibitive. The company is prepared to supply current, but, as half the flats are outside its limit of supply, the consent of the district council is necessary before a supply can be given. The council, however, will not give its consent, and as there will be no light to the flats they cannot be let. It would seem that there is no way out of the difficulty, and builders and flat-dwellers alike suffer because the two lighting authorities cannot agree.

Looked at one way, the Canadian Committee on Financial Arrangements of the National Federation of Constructive Industries have discovered that "It is the good fortune of the country and to the credit of the construction industry that the prices of building materials and construction in general have increased 23 per cent. less than the price of other commodities, and that the pre-war dollar will thus go farther in buying buildings than commodities in general." That means, of course, that there has been no "profiteering" by Canadian builders. We are pretty sure that it is much the same here, and that the British builder, even while bearing on his back the additional burdens of Mr. Lloyd George's Finance Acts of 1909-10, has been carrying on with the narrowest possible margin. That being so, it is evident that the cost of building cannot be reduced till the 23 per cent., or whatever it is, has been cut off the prices of other commodities. Whether, meanwhile, the "comparative" cheapness of building will help to induce building-owners to build now is another question, but it is one not to be solved by cutting off absolute necessities, or an unscrupulous determination to coerce builders into accepting contracts and live on the loss.

If profiteering extended to places of interest and recreation, the Government would rank among the chief offenders. Saturday is now the only free day at the Tower of London, while on others it is necessary to pay just threepence short of half-a-crown to see what is worth seeing, and even then much that should be fairly open

to the public is kept from view. Three tickets are necessary for the process, ninepence being charged for admission to the White Tower and its armouries; sixpence to the Bloody Tower, the special interest attaching to which is that the historic two young princes were murdered therein; and sixpence to the Beauchamp Tower and the Crown jewels. As, moreover, even the old-time service of the "beefeaters" in showing small parties round is now dropped, it is difficult to see why so high a tax is levied on the interested visitor.

ON THE WRONG TRACK.

We received the following communication just before 5 p.m. yesterday week, when this journal had gone to press two hours before. As it was evidently sent out to the ordinary press at the same time, and published wholly or in part by some of the papers the next day, we should not have published it to-day, simply because it is stale matter. Because, however, it deals with a matter of considerable importance we give it, a week late. That is not our fault, but is due to the forgetfulness of the officials of the R.I.B.A. that the necessary time of going to press of this journal and its professional contemporaries doubtless hindered the desirable simultaneous publicity which always emphasises the effect such communications are meant to produce.

Dear Sir.—The enclosed account of the work that is now being done by the Building Industries Consultative Board may be of interest to your readers. If you decide to make use of it, perhaps you would describe it as "From a Correspondent," or something of that sort, as it is unofficial. It is, however, an accurate account of the work of the Board. Its publication at the present juncture may do something to help to restore the building trade to a healthy and prosperous condition.—Faithfully yours,

IAN MACALISTER,
Secretary R.I.B.A.,
and

Secretary of the
Building Industries Consultative Board,
Royal Institute of British Architects,
September 17, 1919.

TEAM WORK IN THE BUILDING TRADE.

A determined and hopeful effort is being made to get rid of the difficulties which are hampering the efficiency of the building trade. Never before has it been so vitally necessary to the welfare of the country that the trade should be vigorous, productive, economical, and smoothly running. Not only are there vast arrears of ordinary building work to be made up, but the gigantic national housing scheme demands the utmost possible output of work. Yet at the moment the trade is stagnant, producing little and at an excessive cost, and hampered by doubts, difficulties, friction, and the threat of internal war.

Early in the summer the Royal Institute of British Architects summoned a conference to consider what could be done to restore health to the trade. Dr. Addison, then President of the Local Government Board, and now Minister of Health, came and gave his official blessing to the movement. It was warmly taken up by all the representative bodies concerned, and at the end of May a Building Industries Consultative Board was founded. It contains, in equal numbers, representatives of the professions and trades concerned. Five architects, five surveyors, five master-builders, and five operatives, with the President of the Royal Institute as chairman, and Mr. J. P. Lloyd, of the National Federation of Building Trades Operatives, as vice-chairman, constitute the board. It has been meeting regularly at Conduit Street, and it is not too early to say that its work has already justified its existence.

It faced the main problem at once. What is the reason of the stagnation in the trade? Clearly the answer lies in the vastly-increased cost of building. Why does building cost so much more than in 1914? Because labour and building materials cost more. Here the board was faced by an inquiry along two lines. It began with materials. The master-builders at once supplied ample evidence of the facts from their own recent experience. Materials had gone up to fantastic prices, and the supply was

slow and uncertain. Had Government action anything to do with it? The Ministry of Munitions has a Department of Building Materials Supply, which has been conducting vast operations. So the Board sent a deputation to the Ministry of Munitions to find out the facts. The Ministry met the Board in a most business-like way, and put its cards on the table. It had had to face the fact that at the date of the Armistice the production of bricks and other materials had almost ceased. The yards were either closed down or in a desperate condition. To get the industries going and bring output back to normal conditions it had helped them with money and with vast orders. The policy had succeeded and the supply of material was now in a fairly safe position. But for the action of the Ministry it is clear that the shortage of bricks and other essentials would have made it impossible to embark on the housing scheme on a large scale. But if the supply is now fairly adequate, what justification is there for the fantastic prices which are being demanded? The Board, with all the facts before it, came to the conclusion that the time had come for the Government to suspend their operations and leave the laws of supply and demand to settle the price of materials. A resolution to this effect has been sent to the Government, with a further recommendation that the building trade should be left free from any form of Government control or interference. If the Government will act on the advice of the Board it is hoped that in a comparatively short time prices will come back to a reasonable level.

Next came the problem of labour—the other great factor in the high cost of building. Admittedly the supply is short. Many men have fallen in the war, many are still in the Army, the usual flow of recruits to the trade has been largely suspended since 1914, the older men are tired, the demobilised men have not quite got back the power and habit of steady work, many of the operatives have been demoralised by the pernicious system on which so much Government work was done during the war—cost plus percentage as it is called. Wages have gone up largely since 1914. Whether they have kept pace with the rise in the cost of living is a debatable point. The unions say no, the masters say yes. But whatever the truth is, the rise in wages would not matter if output were satisfactory. The masters say that output has gone down deplorably since the beginning of the war. Too many men are not doing anything like a fair day's work for their wages. Whether or not it is officially sanctioned by the unions, there is, in fact, a deliberate policy of restriction of output by the men. That is the masters' case.

To some extent it is conceded by the operatives. They claim that "real" wages have fallen since 1914, but they admit that the methods of the Government during the war have had a demoralising effect upon many of the operatives, and have lowered the level of craftsmanship. They deny that individual output is restricted to the extent that is suggested, but they admit that it might be greatly improved by the introduction of a new spirit and a new tradition into the building trade. They claim that in the past the policy of the unions as regards wages and output was justified by the bad old tradition of rate-cutting among the employers and by the well-founded fear of unemployment which arose from the casual nature of the trade.

They say that the men will never be permanently satisfied until a real change is made in the methods of the trade. They are not content, as in the past, to be simply "hands." They want a real share in the control and guidance of the industry in which they have invested their lives and their skill. It is not a question of money, but of status and functions. Most employers meet this claim with an absolute *non possumus*. Those who have the financial responsibility must have unfettered control of the business. They cannot share it with those who have none. But there are signs that, after all, something can be done to meet the views of the men without ruining the industry. The Whitley Council of the Building Trade is thinking out a scheme on the most idealistic lines. Many minds are at work, and the common sense and common interests of leaders on both sides will surely arrive at a solution without the interposition of industrial war, which must do infinite harm to the country, and cannot possibly settle the question.

In the meantime the Consultative Board is at work on the organisation of a crusade for the introduction of a new spirit into the trade. It hopes to awaken in the minds of everyone engaged in the industry that "team spirit" that carried the nation through the war to a triumphant issue. It believes that the situation will be saved, not by higher wages and shorter hours, but by a new attitude of mind on the part of all concerned.

We shall be pardoned, we hope, for saying that this communication ought not to have been sent out by the R.I.B.A. for insertion as suggested. It should either have been official or not sent at all. The purpose of the Building Industries Consultative Board was a most excellent one, and there should have been no need, four months after its formation, to send out, even with the addition of Dr. Addison's "official blessing," any such cryptic indication of its existence, pretty much in the fashion in which an ostrich is said to bury its head in the sand and fancy nobody can see it, or "something of that sort." Our own readers, who have never failed to receive the earliest intelligence of anything interesting at the R.I.B.A., have already been acquainted with the existence and purpose of the Consultative Board, and now, we are assured, agreed with and endorsed our good wishes for its success.

That is why we hope it will not get on a wrong track. As regards the increase in the price of building materials, the conclusion arrived at is the true and only possible one. It has been almost entirely due to the Government itself, and we deny that the Minister of Munitions put all "its cards on the table" when the deputation from the Board interviewed him. About this those who know the facts can best form their own opinion. Control of building materials has failed just as control of everything else has failed to keep down prices. Partly, no doubt, owing to the stupidity of the Controllers, but as much so and perhaps more for the same reason as the truth proclaimed by Malthus more than a hundred years ago, that if the employer, compulsorily or benevolently, raised the wages of the labourer by 3s. 6d. a week, meat, which was then selling at sixpence or sevenpence, would be sold—even where it could 'be obtained—at 3s. 6d. per pound. The prodigal wages paid to the workers employed by the Government almost at once brought about extravagance, which sent prices up of everything, and the subsequent rapid rise of wages everywhere else has sustained and increased that rise; till at the present time out of every £700 spent on building, labour gets £400 of it. As far as Control goes, the Board came to the conclusion that the time has come for the Government to stand aside and leave the laws of supply and demand to settle the price of materials. If this is done the level of reasonable prices of materials will soon be reached, and so will the prices of other things, and the level of reasonable wages as well, if control thereof is ended as well.

That any endorsement of the "team-spirit" talked at the Builders' Parliament at its meeting last month at the Hampstead Garden Suburb, as fully reported and commented on by us in our issue of August 20, should have been possible by the Building Industries' Consultative Board is incomprehensible. We entreat any readers who have been holiday-making, or otherwise engaged, to read most carefully the very full report of the "idealistic" proposals embodied in the report discussed at the Hampstead Garden Suburb which we gave on pp. 151 and 152 of our issue of August 20. If they are not then convinced that the régime of such a bureaucracy as is there advocated would not be ten times worse than the Government Control we trust we are near the end of—if architects and builders are to be "regulated," if dolos to the unemployed are to be compulsorily permanent, if capital is to be obtained in the fantastic fashion sketched out, if the time of the Board is to be frittered

away in the discussion of hare-brained schemes elaborated, with such a parody of discreet discussion, instead of the initiation of a demand for the only real remedies—freedom of private enterprise and fair treatment from Parliament for builders, then we fear the prospect of "industrial war" which the Board—or its "unofficial" press-agent—deplores is black indeed.

Our Illustrations.

PROPOSED WESTMINSTER HOSPITAL REMOVAL TO CLAPHAM COMMON.

The site is situated on the north side of Clapham Common, and for the purposes of a hospital is unusually favourable. The surface is approximately level on high ground with gravel subsoil, entirely open to the south with views over the Common, and on the other side the ground slopes gently to the North, and with the proposed private road on the northern boundary it forms an island site. The hospital is designed for 525 beds. The various blocks of buildings are designed so as to obtain the maximum of sunlight and air to every department. The existing building frontage lines on the south have been retained, and this allows of a strip of garden between the ends of the southern wards and the public road on Clapham Common. The arrangement of plan allows of the easiest possible administration, as all blocks are reached on both sides from one main central corridor, and with all administration offices arranged midway between the ward pavilions. On the ground floor of the central block are the secretarial offices and board-room, matron's offices and linen-rooms, and the chapel and visiting medical staff rooms and students' waiting-rooms. On the first floor, the sitting and bed rooms for resident medical officers and the dining-room for nurses. On the top floor, the servants' bedrooms and the kitchen (to serve the whole hospital). The out-patient department is on the ground floor of the north-east pavilion, and consists of waiting hall for 250 patients and six consulting units (medical, surgical, aural and throat, ophthalmic, obstetric, and dental), also an operating theatre and rooms in connection. The dispensary is placed conveniently to serve out-patients and in-patients. The casualty department occupies the ground floor of the south-east pavilion, and is approached from Macaulay Road. It is directly accessible to the main central corridor, and consists of male and female surgeries, medical officers' and sisters' rooms, small isolation wards, and waiting-room for the public. On the lower ground floor, under the casualty-rooms, are the departments for electrical treatment, massage, special bathrooms, gymnasium, etc. The boiler-house and engine-rooms are in the basement under the out-patient department, and all pipes and mains would be in a subway under the main corridor. The ward pavilions are 80 ft. apart and placed almost axially north and south. Each pavilion is three floors in height, and on each floor twenty-four beds, with ward kitchen, sisters' room, test-room, linen-room, milk larder, patients' clothes-room, bathrooms, and usual sanitary offices, and l.m. closet. Every pavilion would have a large southern balcony for the use of convalescents, and have an exit in case of fire at each end of pavilion. The buildings are designed with flat fire-proof roofs, and these can be used as open-air wards. All the corridors are well lighted, and the short cross corridors have

an end window. The operating theatres (of which there are four, exclusive of the O.P. Theatre) have due north and top lighting, two on the ground floor for the chief surgical operations and two in the special department. There are large clinical and pathological departments, and provision has been made for a large medical school and in the future for a nurses' home. For the present it is proposed to utilise some of the houses in the possession of the hospital on the site. Messrs H. Percy Adams and Charles H. Holden are the architects. The drawing reproduced was shown at the Royal Academy, and we add a block-plan on another sheet. The old row of fine Georgian houses now standing between Macaulay Road and "The Chase," opposite Holy Trinity Parish Church, Clapham Common, on the proposed site, were illustrated by us in our issue of March 12 last, with an account of their erection between 1713 and 1720, their 200 years' lease having now almost terminated. The late Sir John Wolfe Barry, K.C., was the predominating promoter of the adoption of this site, and the consequent demolition of these interesting old residences, which have been attributed to Sir Christopher Wren; though it is most unlikely that the great architect can have had anything to do with their design, he being over eighty-two when they were built.

THE VILLAGE STREET, PETIT AUDELY, NORMANDY.

Petit Audely is a village on the Seine lying at the foot of the Château Gaillard, the famous stronghold built in one year, and planned by the Crusader king, Richard I. of England. The Château Gaillard was considered the key of Normandy, and with its loss by King John dates the end of the English rule in the Duchy. The Château Gaillard was dismantled by the order of Henry IV. of Navarre, and this took fourteen years to carry out. The ruins are now owned by the State. Grand Audely is situated about a mile from Petit Audely. Many literary and artistic celebrities have visited Les Audelys. Among others, it is said Sir Walter Scott, Alexandre Dumas, Maurice Hewlett, Dr. Charcot, Lepère, Sir Alfred East, and Martin Hardie. Our illustration of the Village Street is a reproduction of an etching from the Royal Academy Exhibition lent us by the artist, Miss Katharine Kimball.

CHURCH OF ST. JOHN, SOUTHEEND, CATFORD, S.E.

This church is designed to take the place of the old chapel of the hamlet of Southend, which will become a parish room. The district is likely to become a populous one, and a good site has been obtained for the church and parsonage. The latter, it is hoped, will be begun next year. The church is to be the thankoffering of the Lewisham Deanery. It is proposed to build it of brick or concrete faced with flint and brick; the freestone dressings are limited to the window traceries, etc. The flats to be in concrete and asphalt. The chancel is designed to form the first portion of the actual church, which would be built to hold 500 persons, with provision for a larger congregation in the completed scheme. Sir Charles A. Nicholson, Bart., M.A. (Oxon.), F.R.I.B.A., is the architect.

A society has been formed in the Lake Country of representative men and women residing in the various districts, whose aim is to keep a watchful eye on any destruction of natural beauty in their neighbourhood. Canon Rowanley, Grasmere, is chairman, and Sir William Forwood, Windermere, deputy-chairman.

SIR ASTON WEBB ON THE DIVORCE OF THE THREE ARTS.

BUILDINGS INCOMPLETE WITHOUT PAINTINGS.

Sir Aston Webb, President of the Royal Academy, last Saturday formally opened the 47th Liverpool Autumn Art Exhibition at the Walker Art Gallery.

Speaking of the purpose of art exhibitions, Sir Aston said that while the act of production was the greatest joy in the artist's life (and this might be borne in mind by other classes at this time), his ambition was to show his work, and through it impress his ideas upon others. He saw a portrait recently by a famous artist of the head of a school who was also a clerical dignity, and the artist, who did not altogether hide his light under a bushel, said of it: "I have not only made a portrait of that man, but I have put the whole of the Church of England into his face." That was a tall order, but it conveyed the lesson that the object of art was to impart to the beholder an impression beyond that of mere representation—a power without which art would be no use.

Another object of such exhibitions was to give to those who visited them something which would help to make their lives pleasanter and happier. Art had the power, and if it had not the power it was not art at all. He (Sir Aston) was not a painter, but an architect, but art was essentially the same thing in whatever way it was expressed, whether in painting, in sculpture, or in architecture. The other day, in a look by James Northcote, one of the first members of the Royal Academy, he came across a description of portrait painting which struck him as being rather interesting. There were, Northcote wrote, three styles of portraits. The first was the style which was true, and not ingenious—the style which produced a good likeness, but not much of a work of art. The second was ingenious, but not true—producing a pretty picture not the least bit like the person supposed to be represented (laughter). The third style was both true and ingenious, and it was to that class that most of the portraits in the autumn exhibition belonged.

Art seemed to have been a necessity of all mankind from the very earliest times. In the roughest and crudest buildings which were ever put up, the remains of which were still in existence, crude representations were to be found drawn or painted on the walls, and in the highest phases of art, architecture, sculpture, and painting were always associated. In the Egyptian temples and the Grecian temples—which came into being when art was at its highest—as in the Venetian palaces and our old English cathedrals, the three were always found working together. As a modern illustration they had the Liverpool Town Hall, where they could see a fine and restrained form of architecture combined with painting and sculpture.

There was a tendency at the present time to dissociate the three arts, painting, sculpture, and architecture. The painter goes on his lonely way painting an easel picture; the sculptor sculps his single figure without background, and the architect builds buildings, and thinks he has finished when he has painted them white. To be in the highest phase of fashion to-day one must paint the whole of one's walls white.

French sculpture had ever been associated with architecture, and their buildings were incomplete until they were painted by the artist. He was glad to see in this country a promise of a return of the association of the three arts. The activity of arts and crafts movements was exercising an influence in that direction.

Owing to the refusal of the town council to adopt a recommendation in favour of a public hall, Richmond War Memorial Committee have decided not to sit again.

The London Housing Board considers that £1,000 each is too much to pay for the first 103 houses under Ealing's municipal scheme. At its suggestion the four-bedroom type of house has been eliminated, and the parlour type with three bedrooms substituted. These will cost £120 each less to erect, and there will be a saving of £1,073 on each of four contracts.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended September 13 was 164, bringing the total number of schemes submitted by local authorities and public utility societies to 4,840, comprising approximately 45,000 acres. The total number of schemes approved is 1,561, comprising about 19,000 acres. The number of house plan schemes submitted is 540, representing 32,743 houses. House plan schemes, representing 20,112 houses, have been approved.

Further arrangements have been made in regard to the acquisition of war-service huts and hostels to be used by the local authorities for conversion into temporary dwellings. The huts and hostels can either be converted in situ, in which case they may be either purchased or leased, or they may be purchased and removed for conversion elsewhere.

In the case of huts to be used in situ, arrangements for the acquisition of the land on which the huts stand will be made with the owner by the local authorities, and they will assume full liability for the re-instatement of the land. They will, however, receive from the Government Department concerned, a sum agreed upon as equal to the estimated sum which it would have cost the Government Department to reinstate the site if the land had been vacated at the time of transfer.

In the case of the huts taken on lease the rent for them charged to the local authority by the Ministry of Health will be based on a valuation, less 33 1-3 per cent. discount. At the end of the period of the lease the huts will revert to the Surplus Government Property Disposal Board. The huts will then be sold, and the local authority will receive such part of the proceeds of the sale as is in excess of the value of the huts as estimated at the time when they were leased to the local authority. In the case of purchase of huts local authorities will be allowed a discount of 33 1-3 per cent. below a valuation to be made by the Disposal Board or, where their valuation is challenged, by an independent valuer. Arrangements have been made with the War Office and other Government Departments concerned for the evacuation of camps required for temporary housing purposes to be expedited.

The Ministry are calling the attention of local authorities and others to the useful powers which are given to local authorities under Section 12 (3) of the new Housing Act. Under this section a local authority may contract with a private builder for the purchase of houses to be thereafter erected by him. In many cases this may prove to be an economical and expeditious arrangement. Small builders may have partly developed sites in their possession on which a few houses could be erected, and large estate developers, who have other building operations in hand, may have resources at their disposal which would be applied, with a considerable saving of expense, for the erection of working-class houses. Private builders who consider that they could put in hand at once the building of a few cottages at a relatively cheap rate should therefore lose no time in getting into communication with their local authority and submitting proposals for consideration.

The London Housing Board have inspected about 3,400 of the 4,000 houses included in the returns made by the metropolitan borough councils of the number of houses which might be regarded as suitable for conversion into flats in the London County Council area. Up to now, about 1,100 houses have been scheduled by the London Housing Board as generally suitable and likely to be available for conversion at an early date.

Mr. Charles Harris, who is retiring from the secretaryship of the Auctioneers' and Estate Agents' Institute on September 30 after 30 years' service, has been presented by fourteen of the provincial branches in England, Wales, and Ireland with a silver salver and a cheque for 400 guineas.





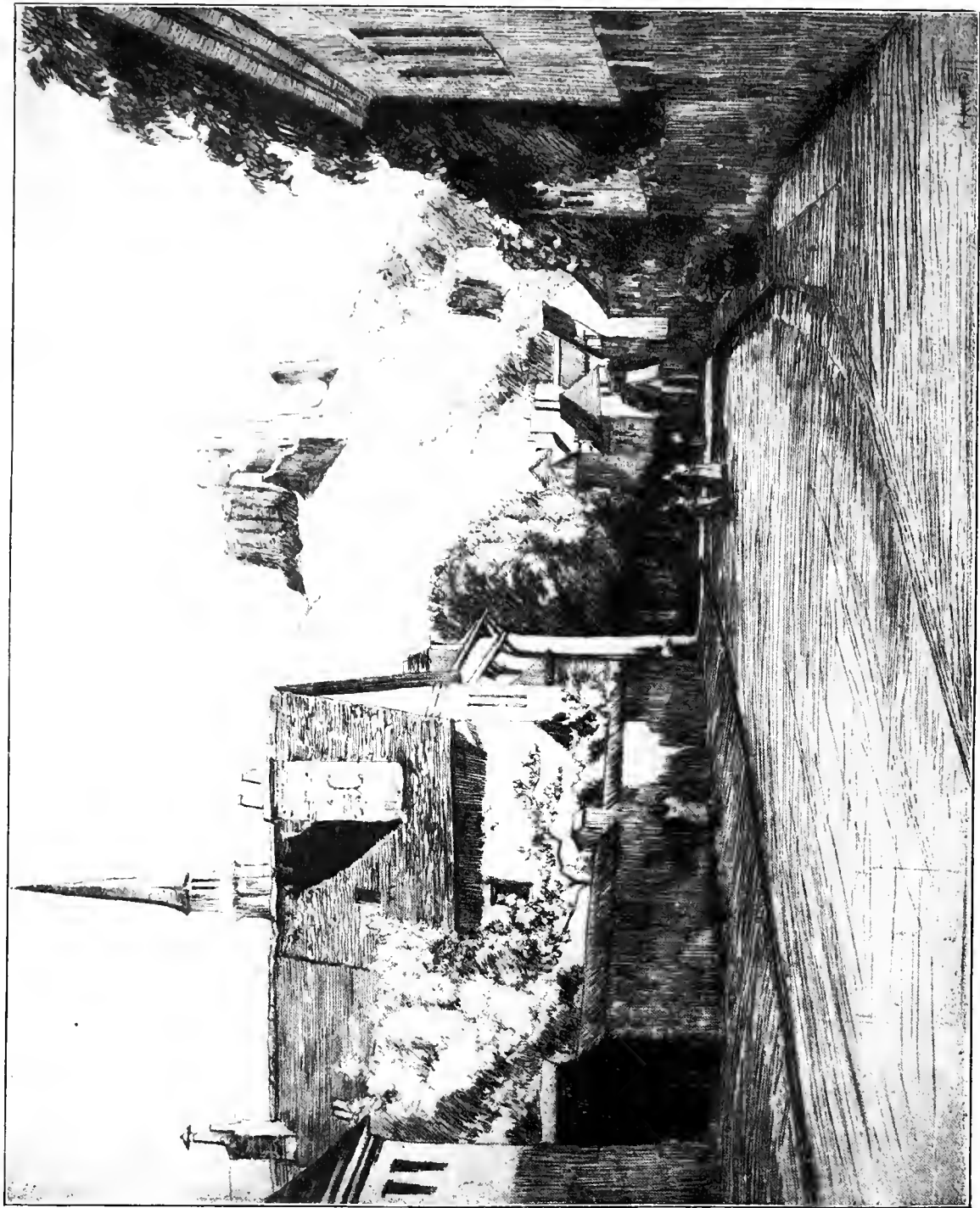
NEW WESTMINSTER HOSPITAL PROPOSED TO BE ERECTED
Messrs. H. PERCY ADAMS, F.R.I.B.A., and

SEPTEMBER 26, 1919.



FACING CLAPHAM COMMON, ON "CHURCH BUILDINGS" SITE.
CHARLES H. HOLDEN, A.R.I.B.A., Architects.



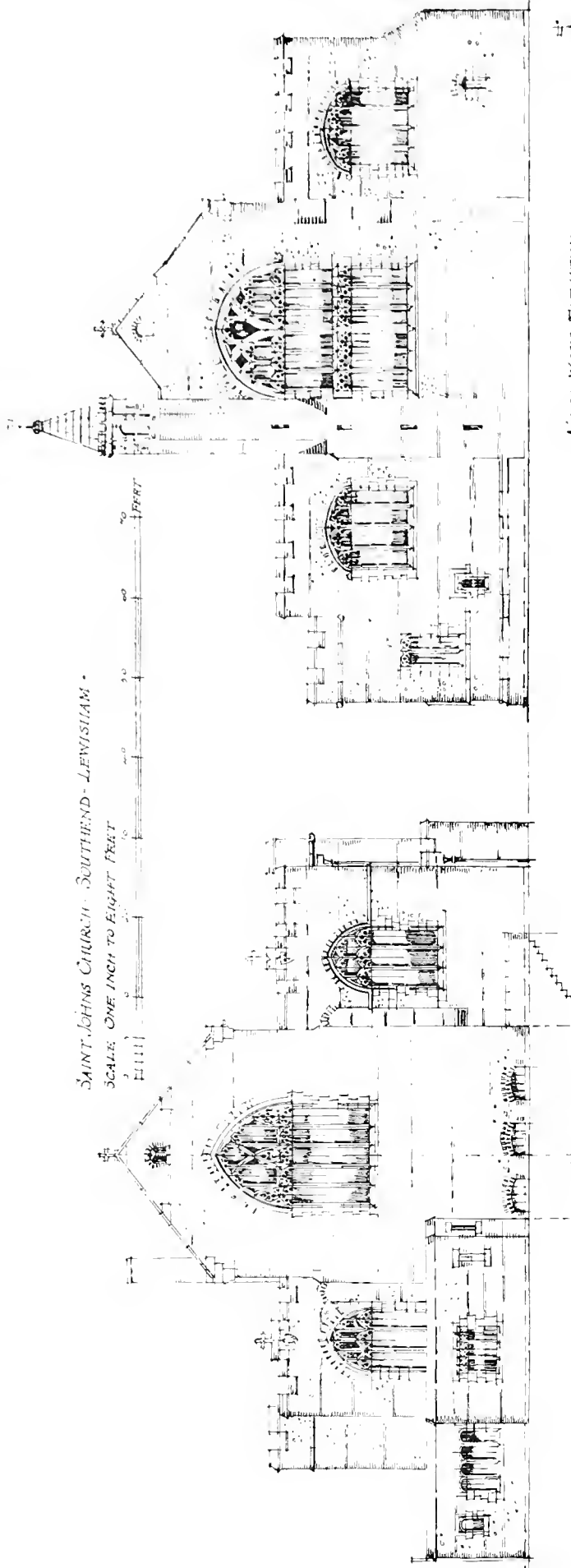


THE VILLAGE STREET, PETIT AUDELY, NORMANDY.
An Etching by Miss KATHARINE KIMBALL.



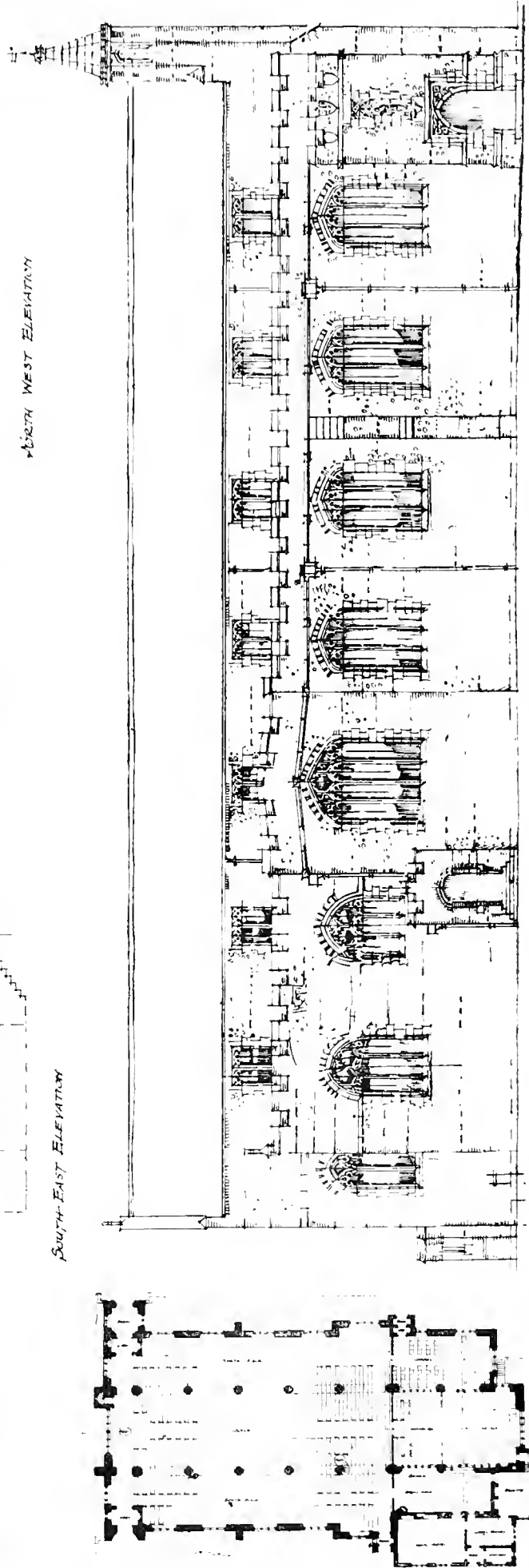
Saint John's Church - Southend - Lewisham.

SCALE ONE INCH TO EIGHT FEET



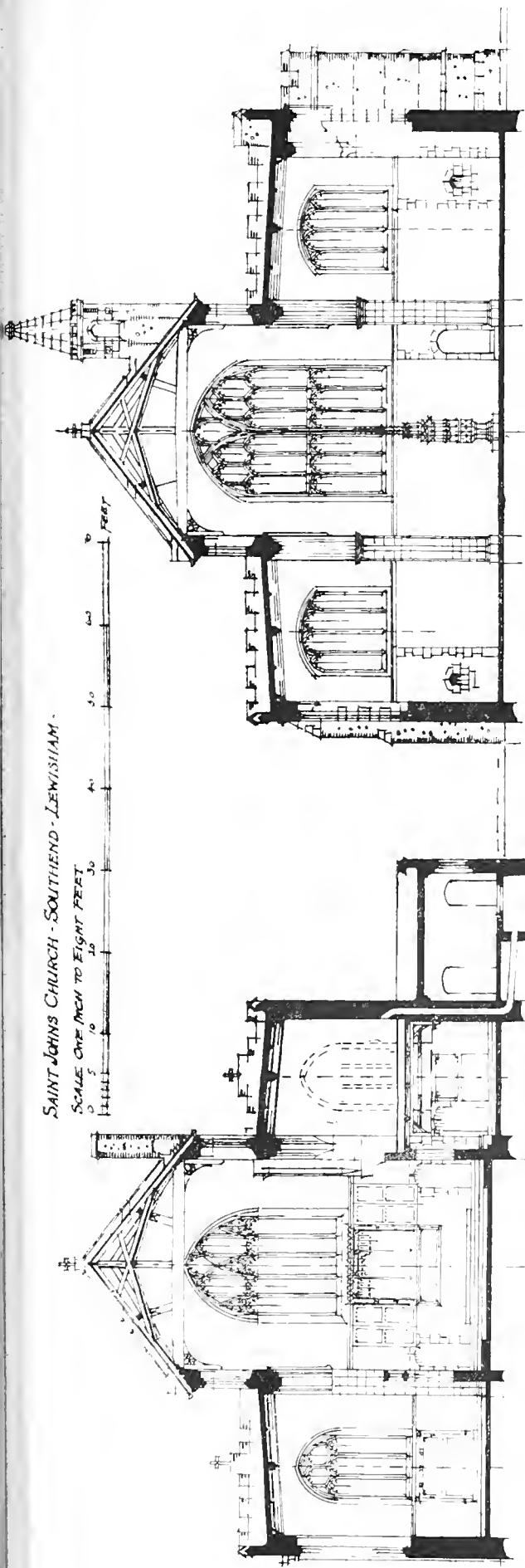
SOUTH-EAST ELEVATION

NORTH WEST ELEVATION



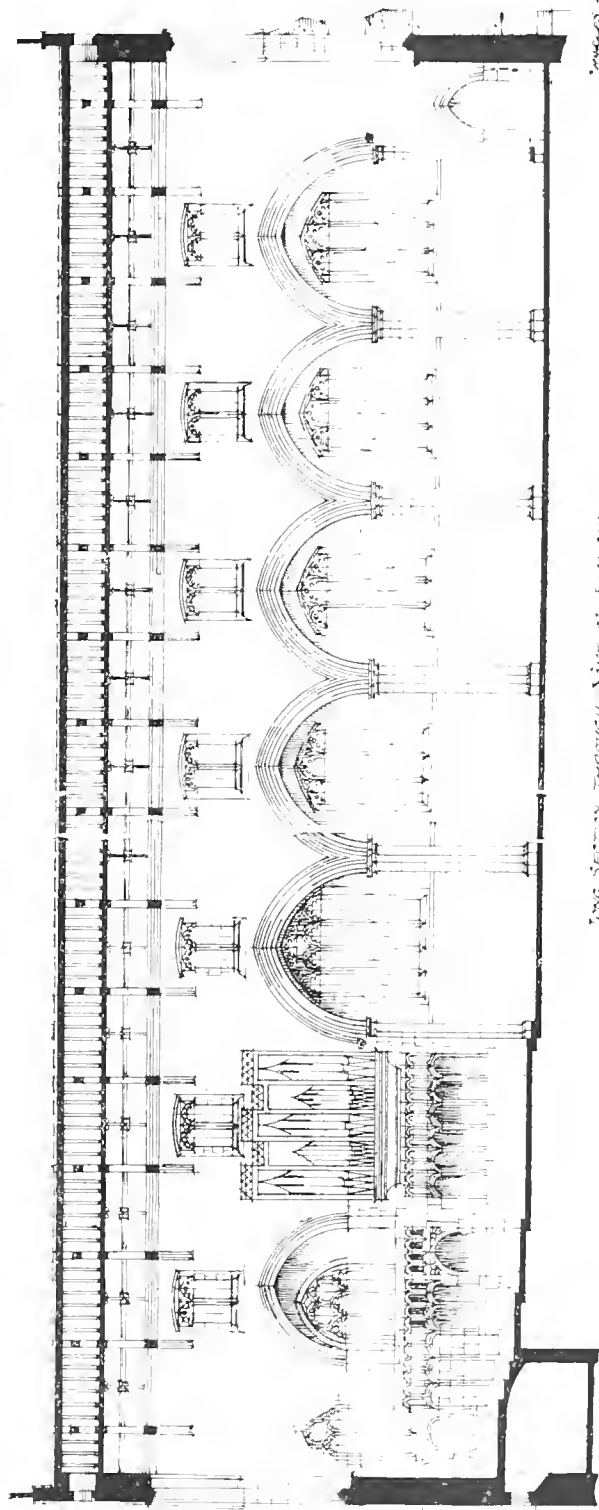
SAINT JOHNS CHURCH - SOUTHBEND - LEWISIAM.

SCALE ONE INCH TO EIGHT FEET



CROSS SECTION THROUGH CHURCH CHANCEL, ORGAN & CHORAL RESEVE

CROSS SECTION THROUGH NAIVE & AISLES



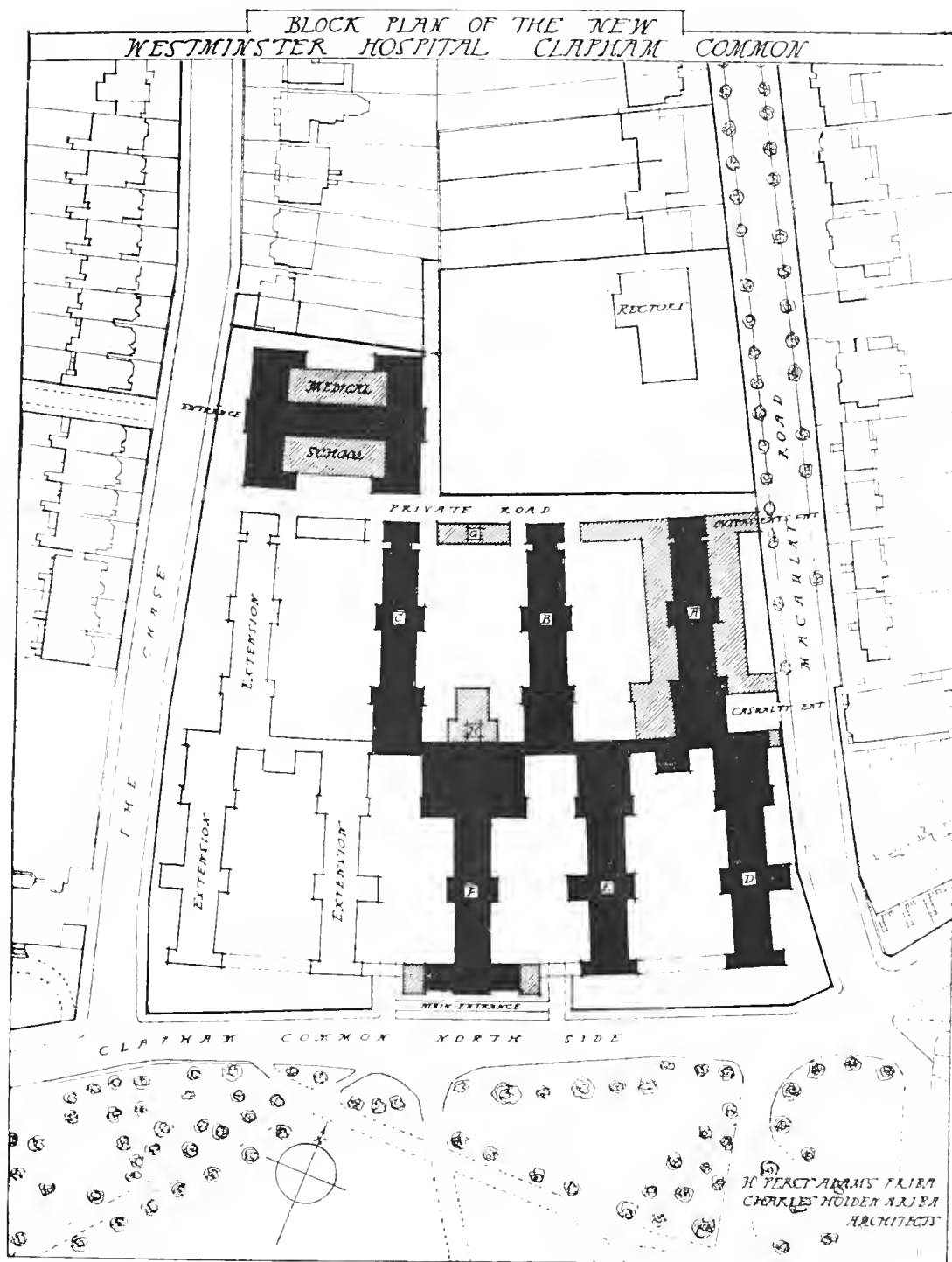
مفتی محمد رفیع الرحمن

2. West Square
 LARSEN 16° 16' 10"
 12/12

CHURCH OF ST. JOHN, SOUTHEAD, LEWISHAM. S.E.; WORKING DRAWINGS.
 Sir CHARLES A. NICHOLSON, Bart., M.A., Oxon, F.R.I.B.A., Architect.



THE BUILDING NEWS, SEPTEMBER 26, 1919.



NEW WESTMINSTER HOSPITAL, CLAPHAM COMMON, S.W.
Messrs. H. Percy Adams, F.R.I.B.A., and C. H. Holden, A.R.I.B.A., Architects.

SIR BANISTER FLETCHER ON DEVASTATED FRANCE.

Sir Banister Fletcher, F.R.I.B.A., C.C., who has recently, at the invitation of the British Committee of the Red Cross, in company with Mr. J. W. Simpson, P.R.I.B.A., visited the ruined cities of France and Flanders, describes in the *City Press* what he saw.

Starting from Boulogne, Sir Banister said that he and his companion received their first shock in making their way towards Ypres, for there, on either side of the highway, a scene of desolation was opened out before them, particularly noticeable in the tall poplar trees, which, when not shot down, had been rendered lifeless owing to the bark having been stripped off by shell fire. At Ypres the shock was intensified when they beheld a city of the dead—dead activities, dead streets, and an absence of citizens. The Cloth Hall was stripped of its historic glory, the Town Hall was stricken to the ground, the Cathedral was rent in twain, and even the Market Place was scourged out of recognition.

CLOTH HALL AT YPRES.

The Cloth Hall (said Sir Banister) was a mere shell, which only retained some portions of its outer and lower walls and a fragment of its tower. The rows of historic statues had been shot away, as also the roof with its fine mediæval vaulting, beautifully traced windows, and modern frescoes of the history of the town; while even the small parts which remained were so lumbered up with mounds of fallen masonry that even an architect familiar with the original plan found it difficult to outline them. The well-known Renaissance Town Hall alongside had been wiped out, while of the adjacent Cathedral only parts of the lower structure still stood. So heavy was the bombardment that the street itself had been pierced by shells, which had spared the underground watercourse. So thorough had been the destruction that they failed to find any traces of the inn on the Grande Place, where they had enjoyed a dejeuner before the war. The City (said Sir Banister) reminded one of Pompeii, but even the streets had been destroyed, and one could not, as in the ancient Italian ruins, trace the chariot wheels in their stones.

AT LILLE.

Passing through Menin and Croix, the travellers came to Lille, where an attempt was being made to restart the industrial life of the town. There numbers of German prisoners, in their drab-green uniforms, were employed on a variety of work. It was with mingled feelings of surprise and satisfaction that they saw these gangs of enemy workers set to restore that which they had destroyed. Passing Vimy Ridge, where the Canadians gained so much glory, they came to Arras, another of the ruined cities of the plain, where the Hotel de Ville, dating from the 16th century, only retained a stump of the graceful Renaissance belfry which formerly dominated the market place from a height of 250 ft. The arcaded buildings which stood round the spacious Grande Place and the Petite Place, had been gashed, rent, and scarred. At Vitry the Red Cross Society was supplying returning refugees with the necessities of life, clothing, and household utensils. Passing through the ruined streets of Douai, Sir Banister was agreeably surprised to find the noble Hotel de Ville, dating from the 15th century, with its five-storied belfry, apparently intact.

ST. QUENTIN.

Passing through Cambrai, the travellers came to St. Quentin, the Red Cross Headquarters, where an immense amount of good work was being done in re-provisioning and re-constructing the life and work of the country. The damage done at St. Quentin had been considerable, although the Hotel de Ville, of the fifteenth century, with its façade of pointed arches, had fortunately escaped. The roof and most of the vaulting of the fine Cathedral, dating from the twelfth and fifteenth centuries, had gone, but the famous circular transept windows still remained. St. Quentin was one of the few places visited where there appeared to be any attempt at

reconstruction, either in churches or secular buildings. The French (suggested Sir Banister) might be waiting for a distribution of the indemnities. Albert rivalled Ypres in its total destruction. The statue of the Virgin, leaning suspended, as by a miracle, from the tower of the Cathedral, had been moved to safer quarters. Architecturally speaking, the one broad fact which impressed itself upon them was the extraordinary tenacity which building materials possessed. They frequently saw arches with only one abutment still remaining firmly in position by mere cohesion, and supporting heavy walls above.

WHOLESALE HAVOC.

The circle of the tour of 400 miles was completed at Boulogne. "From start to finish there was nothing but the dead, unrelieved monotony of one prevailing feature, and that feature was destruction of all alike, whether churches, town halls, dwelling-houses, shops, gardens, or trees—nothing escaped except as by a miracle. Destruction was the intention, and preservation was the accident of infrequent occurrence. The cities were razed to the ground from which they sprang; torn walls stand here and there to testify to what had been a building, mounds of stone indicate former dwellings, from which the inhabitant had fled, homeless and defenceless, to take shelter in other towns which often, in their turn, suffered the same ruthless fate. One asks oneself where are the people, the men, women, and children who once traded, kept house, and went to school in these war-swept districts. The French Red Cross is seeking them, caring for them, and re-establishing them so that these unhappy people may once more be planted on their well-loved land, with their feet set once more on the paths of peace, so that they may be able to raise again that which the Hun has thrown down, to cultivate again the land he has torn with his shells, and to build up again the family life which his violence had rent and scattered to unknown districts."

OBITUARY.

We regret to announce the death of Mr. Arthur Rutherford Jemmett, F.R.I.B.A., who was born in 1860, and died on September 17 unmarried. He was articled to J. J. Stevenson in 1879, the articles being terminated by mutual consent in 1882. About 1880 he entered the Royal Academy Schools, winning the R.A. Travelling Studentship of £60 in 1883 for design in architecture. In 1891 he was bracketed with another competitor for the Soane Medallion; the medallion not being awarded, he received a grant of £25 for travel on the Continent. For some time he assisted T. E. Colcutt. He was elected Fellow R.I.B.A. in 1906. In 1909 (or 1910) he attended the International Congress of Architects held in Vienna. He twice visited America, seeing most of the principal cities of Canada and the Northern States. In partnership with J. Murray he built the Rotherhithe Town Hall, and with A. Taylor the Tottenham Town Hall. In partnership with McCombie, he was selected in the preliminary competition to compete in the final competition for the London County Hall. At different periods he was on the Council of the R.I.B.A., was a member of the Board of Architectural Education, and a member of the Town Planning, Competitions, and Literature Committees. He was deeply interested in architectural education and the principles underlying it, and was a member of the Beaux Arts Committee responsible for the creation of the First Atelier of Architecture in London, on which he spent himself right up to the time of his illness. He gave not only his time but his constant and untiring service to the work of relieving distress caused by the war amongst architects all over the country, and was hon. Director of the Civic Survey of Greater London. He was well known amongst his friends as a writer on architecture, education, town planning, and allied subjects.

All Saints', the oldest vicarage in Kingston-on-Thames, has been sold, for conversion into a shop, it is said.

Building Intelligence.

MANCHESTER.—The ceremonial opening of the new convalescent home for men, erected by the executive committee of the Manchester and Salford Hospital Saturday and Convalescent Homes Fund, took place last Saturday afternoon. The building stands upon a piece of land abutting upon the main road between Deganwy and Llandudno, about 150 feet above sea level, and commanding an uninterrupted view of the Penmaenmawr range, the Menai Strait, Puffin Island, and Rhos-on-Sea. Here the erection designed by Mr. H. H. Brown, architect, of Manchester, was well in hand prior to the outbreak of the war, and when the lease of Plas Mariandir ran out in 1917 was sufficiently advanced to be transferred to it, but owing to the war the completion was deferred until the present year. The planning constitutes a new model for convalescent homes in many ways. Cross-ventilation and ample lighting are the principal features. Arriving from Manchester about 1.15 p.m. the members of the Building and Executive Committees and other guests invited by them proceeded to Plas Mariandir, where luncheon was served in the dining hall. The formal ceremony of opening the main door of the building with a gold key presented by the architect, Mr. Brown, took place later.

COMPETITION.

LITTLEBOROUGH HOUSING SCHEME.—Out of the thirteen firms of architects—four from Rochdale and nine from Manchester—who submitted competitive plans for the Littleborough District Council's new housing scheme, Messrs. Butterworth and Duncan of Bailie Street, Rochdale, have been selected to carry out the work. The site on which the houses are to be erected is a plot of some thirteen acres. The lay out suggested by the architects provides for 140 houses, of which more than half are to be semi-detached and the remainder in blocks of four. There are to be three open plots for playgrounds or allotments, and the depth of each house plot will be sufficient to provide for an ample garden. The distance between the houses on either side of the avenues is to be 70 feet. The types shown in the competitive plans provide that all the semi-detached houses and the end houses of each block of four shall be of the parlour type, i.e. with three downstairs rooms. The inside houses of the blocks will contain a living room and scullery downstairs. All the dwellings are to have three bedrooms on the first floor and will also contain bathroom, water closet, larder and coal place within the four walls of the building. They will be built of brick, the upper storeys being generally faced with roughcast. The lay out has been approved by the Housing Commissioner's Architect, and sent off to the Ministry of Health Department in London for final approval.

BELGIAN GRATITUDE TO A BRITISH ARCHITECT.

The Council of the Central Society of Architecture of Belgium have just conferred the rank of Honorary Member on Mr. Ernest Newton, R.A., who was president of the Royal Institute of British Architects during the first three years of the war.

The offer of this distinction was accompanied by an expression of the warmest gratitude for the unwearying help and sympathy which he extended to exiled Belgian architects during the cruel years of the German occupation.

At Mid-Devon Sessions last Saturday Frank Cross, twenty-five, signwriter, charged with stealing two typewriters from the office of the Ministry of Pensions at Tottenham, said his mind had become somewhat unbalanced by a disappointment he had suffered through the non-acceptance of a new appliance invented by him for use in greenhouses. The Chairman was not satisfied that the invention was an obsession at the time of the robbery, and sent Cross to prison for six months in the second division.

Correspondence.

DRA ROT FROM OLD BUILDING STONE.

To the Editor of THE BUILDING NEWS.

Sir,—May I trespass upon your valuable space to inquire whether any of your readers has experience of the communication of *dry rot* into buildings by the use of old rubble imported from old buildings? If so, could your reader give a reference to the case and its circumstances?

Thanking you for this courtesy.—I am, etc.,
"ALPHA."

STATUES, MEMORIALS, etc.

THE CITY WAR MEMORIAL. A further report of the Streets Committee as to the provision of a suitable site for a memorial to the London troops who have fallen in the war was considered on September 18 by the City Corporation. A previous report, it will be remembered, had been referred back to the committee some weeks back, some objections having been taken to the design. The report recommended that, subject to all necessary consents being obtained, no objection should be offered to the erection of the memorial on the site of the drinking fountain in front of the Royal Exchange. The fountain would be removed elsewhere. The memorial, which has been designed by Sir Aston Webb, President of the Royal Academy, will consist of a square panelled pillar, surmounted by a lion supporting shields bearing the City and County Arms. Below will be bronze panels crowned with wreaths bearing the names of the regiments and the principal battles. The pillar will be flanked on either side by statues on pedestals of men of the London regiments in full marching order. The memorial will be in Portland stone with a granite base. The figures of the memorial tablets will be in bronze. The total height will be 25 ft., the same as the Wellington statue—and the two will thus form a memorial of the two great wars at the beginning of the nineteenth and twentieth centuries. The existing unsightly lamp-posts will be removed and the disfiguring advertisement-covered railings round the entrances to the "Tube" will be replaced by stone balustrades of simple design. The cost will be borne by the Mansion House Fund.

CO-OPERATIVE UNION WAR MEMORIAL. Mr. Horrocks, an official of the Co-operative Union in Manchester, when questioned on Monday by the *Daily Chronicle* correspondent on the subject of the proposed erection of a co-operative hall in London, said:—"The position at the present time is this: Our board are seeking information as to the cost, and have asked architects to prepare plans of the proposed new building, to be submitted for a later meeting. Should such a building be decided upon, it would probably mean that the headquarters of the co-operative movement would be transferred to London; but there is a strong feeling in the North that this is not desirable, as the strength of the movement is in the North of England. There is a proposal for a Peace memorial, and the Educational Department are anxious to have a Co-operative College. The question, therefore, arises, Shall the Peace memorial take the form of a college, a co-operative headquarters in London, or shall it be an extension of Holyoake House in Manchester, where more room is badly wanted? The erection of headquarters in London would mean the outlay of something like £500,000 and that is a big item at the present time."

DUNDEE WAR MEMORIAL SCHEME. A meeting of the Designs Committee for Dundee War Memorial was held last week, when a letter was intimated from the Royal Scottish Academy on the subject of the selection of a design. It stated that, as a rule, competition for designs was to be avoided, as the best sculptors were unwilling to engage in such except when the subject was of first importance, and when competition for design took place it should be conducted in conformity with the conditions formulated by the Royal Institute of British Architects and the Royal Society of British Sculptors. The question of the cost was raised, architects present stating that that would have a direct bearing on the nature of the competition, and Bailie Buist, who presided, said the sum which had been considered necessary for a worthy memorial was £50,000. It was pointed out that if the competition were conducted under the rules referred to the design would have to be selected by a skilled assessor, and it was contended that on account of the large

number of men who had gone to Scottish regiments from Dundee the design should have a bearing on these regiments' contribution to the war. It was agreed that application should be made for copies of the rules of competition prior to a final decision being reached.

PENICUIK WAR MEMORIAL.—At a meeting of Penicuik War Memorial Committee—Provost Chisholm presiding—the design of Sir Robert Lorimer for the war memorial to the memory of the 200 men belonging to the parish who fell in the war was accepted. It is proposed, subject to the approval of the heritors, to place the monument on the triangular piece of ground in front of the Parish Church, in the High Street. The Committee decided to raise about £1,500 if possible, and an appeal is to be made to former residents to support the scheme, a second object being the presentation of an illustrated book to the relatives of the fallen.

Our Office Table.

Particulars are issued of the coming session of the Bartlett School of Architecture at University College, Gower Street, W.C., including the Department of Town Planning. The introductory address will be given by the Provost at 1.40 p.m. on Monday, October 6. The first term extends from Monday, September 29, to Wednesday, December 17. The Provost and the tutor to women students will attend from 10 a.m. to 1 p.m. on Monday, September 29, and Tuesday, September 30, for the purpose of giving advice and information to students entering the College. The courses include the B.A. degree course (honours in architecture) of the University, the certificate course in architecture, the seniors' design class, certificate course in town planning, diploma course in town planning and civic architecture, diploma course in town planning and civic engineering, and evening courses in design and academic design. Full particulars of these and the various prizes and scholarships are given in the prospectus of the particulars, which can be had on application.

Extraordinary methods are being adopted in South Wales, where the housing difficulty is more than ordinarily acute, by people anxious to secure accommodation. Offers of £20 to £25 as "key money" are quite common, while proportionate sums are offered for unfurnished rooms. At Newport a case was reported last Saturday of a man, who, hearing that the tenant of a house was dying, persuaded the landlord to give him an option on the premises. Applicant watched the house day by day, and at last, on seeing the blinds drawn, rushed off to the landlord in a taxi, paid the deposit, and secured possession.

A Bill which, when passed by the Senate, may benefit the position of artists was voted unanimously by the French Chamber last Friday. It provides for the levy of a special royalty upon the prices paid at any public sale of original works of art. This royalty will be payable over a definite period to the originator of the work in question or to his heir for the same period as book royalties are valid. The rates proposed are 1 per cent. on prices between £40 and £400, 1½ per cent. on prices between £400 and £800, 2 per cent. on prices between £800 and £2,000, and 3 per cent. on prices above the last sum.

In a recent interview, according to the *Daily Chronicle*, Sir Edwin Lutyens, the famous architect who designed the Whitehall Cenotaph, tells an amusing story of a man who paid a week-end visit to a futurist artist. Of course, he was expected to examine the masterpieces which had been painted by his host and which adorned the various rooms. Being a stout fellow, he "carried on," and at the conclusion of his visit was asked which he considered to be the most remarkable. "I think," he replied, "I prefer the picture of your wife in the bathroom." "My wife!" gasped the artist. "That's a plan of the drains!"

An interesting discovery has been made in St. Alban's Church, Worcester, the chief popular distinction of which is that it con-

tains an old wooden pulpit from which the martyr Latimer, when Bishop of Worcester, preached. In the course of restoration the removal of plaster in the interior has revealed stonework which archaeologists believe to be remains of the original church which was built more than 1,200 years ago by St. Egwin, who was Bishop of Worcester from 693 to 717. The discoveries entitle the church to rank as one of the earliest monuments of English Christianity. Historical records had proved that as long ago as 1092 St. Wulstan, then Bishop, had to call in the antiquarians of his time to consider the claim of the church to be the oldest in the city. The present discoveries carry back the origin of the church to four centuries before his time. They consist of slanting jambs over a blocked-up window, headed by a lintel of a single stone instead of an arch, a very narrow priest's door headed in the same manner, and several layers of early tilework (commonly called Roman bricks) over a doorway.

A manual has been issued by the Ministry of Health with the object of giving directions to local authorities on the conversion of houses into flats for the working classes. It is imperative, states the manual, to secure as great an increase in the amount of accommodation available as is possible before next winter, and the Ministry is anxious that local authorities should, without delay, press forward their schemes for the erection of new houses, and should, in addition, adopt any other methods which will increase the housing accommodation in the district. The new Housing Act, it is pointed out, gives local authorities the power to acquire suitable houses and convert them into flats. The chief advantage to be derived from this proposal lies in the fact that the work can be proceeded with at once, and it is essential that there should be no delay. It is anticipated that, as a general rule, local authorities will be able to secure possession of the properties which they desire to acquire for conversion by agreement with the owner. Where, however, the owner is unwilling to sell at a price which the local authority considers reasonable "it will be necessary for the local authority to make a compulsory purchase order." A series of suggestive plans is given, some of which, we imagine, are given as methods to be avoided, particularly two in which 8½ ft. wide bedrooms figure as results achieved. The type of house shown cannot, of course, be economically converted into flats fit to live in.

"We will conclude a pact with the devil if he will help us to reconstruct our fatherland!"
—Herr Wulle, the editor of the *Deutsche Zeitung*.

Mr. J. Aikman Swan, architect, 29, Hanover Street, Edinburgh, has been appointed by Tranent Town Council architect for a hundred workmen's houses to be built within the burgh.

The arrangements for providing a cottage hospital for the town and district of Llandiloes are progressing favourably. The provisional committee has secured a site on the Dolillys road, and Messrs. Shaylor and Ridge, of Bank Chambers, The Cross, Oswestry, have submitted plans.

By the Rye County Bench the driver of an engine attached to a timber-tug has been fined £3 and £3 damages and costs for damaging the stonework of one of the ancient town gateways at Winchelsea. The tug, carrying immense balks of timber 60 ft. long, became wedged in the gateway and the man chipped away some of the stonework with an axe; he then started the engine and dragged away an important keystone.

At a meeting on Monday evening the Nottingham City Council rescinded extensive schemes previously decided upon for the provision of new houses. It was contended that the cost involved would be altogether disproportionate to the rents received from the tenants, while there was nothing under the Government arrangements which would safeguard the municipality against ultimate heavy loss. As an alternative to the former proposals, the Housing Committee was instructed to prepare projects for providing necessary accommodation by the erection of a reasonable number of houses, or tenement dwellings, in suitable positions where streets were already made and sewers and gas mains laid.

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AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

New Offices of the Crown Agents for the Colonies erected at Westminster. Elevation and plans. Messrs. John W. Simpson, F.R.I.B.A., and Major Maxwell Ayrton, F.R.I.B.A., architects.
The Sundial, Corpus Christi College, Oxford, from a water-colour at the Royal Academy by Mr. C. Tattershall Dodd.
Two Sketches by Mr. H. S. East, A.R.I.B.A., from Penshurst and Winchelsea.
Old Cromwellian Chairs and Tables from Recent Sales drawn by Mr. Walter J. Wills.

Currente Calamo.

We regret that it is probable, owing to postal delays, that many communications and advertisements which should have appeared in this issue have not reached us. It is also possible that readers may not receive their copies of the paper promptly, and perhaps not at all. This is no fault of ours, or of the newsagents, who are doing their best in the face of many difficulties to get papers out as usual to the local and provincial newsvendors. We trust the inconvenience will be but a temporary one, and are doing all in our power to cope with it, if, unfortunately our hopes are disappointed.

Probably the more exciting matters that have monopolised their diminishing columns this week have hindered the further suggestions for cheapening the construction of the working-class houses that have been put forward of late by some of our daily contemporaries, with more good will, we fear, than discretion, and which at the best could only be of very temporary benefit. Otherwise we rather expected some enthusiast to follow with a plea for mousetrap dwellings built on the picturesque lines of the old-fashioned model in which our grandsires snared the pretty prey on their household stores. A wooden house of some sort is evidently in favour with Dr. Addison, and, with a little ingenuity, a pleasant verandah might be contrived behind the front wires, up which the flowers might bloom in the spring, and through which ample ventilation might play through the bungalow, especially through the back door—the flap, we mean—which could be so readily lifted and shut down at will, and which might well serve as well for ingress and egress, besides adding a picturesque feature to the exterior. The only objection, of course, is that a decent-sized mousetrap, like any other wooden house, would cost as much as a brick or concrete one, that it would harbour vermin, give cold shelter in the winter, and absorb heat in the summer; that the drainage would probably suffer, that fires would be frequent, and insurance only secured at high premiums; and that, after all, with timber at its present price, a concrete house of suitable design and built on some such system as that we illustrated a few weeks ago, which is now being used by its inventor, Mr.

Maurice S. Adams, A.R.I.B.A., in the houses he is erecting at Ruislip, Birmingham, and elsewhere, would be cheaper and infinitely more durable. The house at Ruislip, by the way, which the *Daily Mirror* illustrated a week or two ago, was visited in consequence by scores of willing purchasers and sold even before completion, which was delayed by the railway company, who had taken five weeks to deliver the steel work, which was discovered at last at Neasden.

We heartily commend a scheme initiated in the village of Shrivenham, in Berkshire, which has as its objects: To provide disabled sailors and soldiers in Berkshire with cottage homes and good gardens in their native villages; to inaugurate a village industry suited to the capacity of the men and the local wants; to place at the disposal of the men the means of enjoying together a fuller social life than would be obtainable if they were isolated in strange surroundings; and to provide educational facilities in order to assist the men to earn enough to supplement their pensions. This scheme is the complement of the work undertaken by the County Homes for more hopelessly disabled men, in that it contemplates the provision of cottages and employment for the less seriously injured, who can still enjoy the happiness of home life. The work is already progressing well. The necessary land has been acquired, the first pair of the twelve cottages to be built are nearly completed, fruit trees have been planted in the large gardens attached, and an eight-acre field in a central position has been prepared as a recreation ground, where cricket, bowls, and tennis, enjoyed by the villagers, will interest and amuse the disabled men, even if themselves unable to participate in these activities. A village institute, to be built this autumn, will serve as a social and educational centre, primarily for the disabled men, but also for the civilian element of the village. Ten thousand pounds are required to carry out this undertaking. Of this, £2,500 is already collected, and a further £2,000 has been awarded from surplus Red Cross Funds; but there is still left £5,500 to be provided. No more fitting memorials could be erected throughout England to the men who have given their lives in their country's cause, for what more acceptable provision could be made for others who have survived, but with impaired powers of body and shattered health, than these

cottage homes, these village halls, raised by the concerted effort of all classes of the community, not only in remembrance of those they have loved and lost, but as a means of brightening the lives and improving the social and material conditions of those they have left behind? A representative committee is actively engaged in forwarding the interests of the scheme, and among their number the Right Hon. Sir Frederick Milner, Bart., General Sir John Aclay, and Admiral H. L. Fleet, C.B.E., are giving it their hearty support. Cheques may be sent to "Village Homes Association," London County and Westminster Bank, Reading Branch; to the treasurer, Commander Ashley Foakes, R.N., 55, Nassau Road, Barnes, S.W.13; or would be received and acknowledged by Mrs. Charlotte Barrington, chairman of the committee, Village Homes for Disabled Sailors and Soldiers, Beckett, Shrivenham, Berks.

The rumours in the daily papers that the Trustees of the National Gallery contemplate some wonderful scheme by which the really great pictures are to be reported on, selected, and placed together in the best rooms for the art education of the general public seem crystallising into a possibility. Most of us would regret to see this realised, if only because the Trustees have given little proof of their increased fitness as popular educators since the days when they bought that third-rate Peter de Hooch for £3,000. If the story is more than a canard, the reminder by the *Morning Post* last Tuesday is a very timely one. With regard to the distribution of information by the authorities at the National Gallery, attention is drawn by our contemporary to the following query and answer:—In the House of Commons, on March 9, 1911, Mr. Kellaway (now Deputy-Minister of Munitions and Supply) asked if it was not a fact that the authorities of the National Gallery—which was supported out of public funds—were supplying exclusive information about matters relating to that institution to one newspaper only. Mr. Hobhouse, on behalf of the Treasury, gave an assurance that this was merely an oversight, and that it should not occur again. Has that assurance been forgotten?

At Exeter the site for the War Memorial is under discussion. The two principal

positions under discussion appear to be Northernhay and Bedford Circus, the former being favoured by the designer of the memorial. Mr. John Angel, whose design was illustrated in our pages on August 20 last, and undoubtedly his choice should be upheld. From our knowledge of Exeter there seems no question that Northernhay, with its fine trees and castle-wall background, is the fitting site. Those in favour of Bedford Circus say, if placed in this position, it would be seen by more passers. This may be true, but the citizens of Exeter know Northernhay well, and surely an occasional pilgrimage or visit to their memorial would be more sincere than a casual glance while rushing about their daily business. Visitors make a point of visiting the Rougemont grounds, and find their way naturally on to Northernhay, which immediately adjoins, where they could not fail to see the memorial. Further, this site has a steady rise from London to the entrance on the one side, High Street and Queen Street on the other. The summit of these two approaches is the suggested site, and no other could be better. The drawbacks to the Bedford Circus site are: it is at a much lower level than Northernhay, more confined, and has already a statue on it, whilst at the High Street end of Bedford Street, looking toward the Circus site, and in a direct line, obstructing the view, is a

A METHOD OF SAW-MILL MANAGEMENT.

By "CHARGE HAND."

Systems vary in different kinds of wood-working mills. In railway companies' shops piecework has always held sway until quite recently, but a few places are trying the premium bonus system. In railway carriage shops not owned by actual railway companies the managing foreman puts in a price for the job, and it is his endeavour to keep the wages list within the allowed price. He, therefore, keeps the wage as low as possible, but pays a bonus at the end of every six weeks or so. This bonus, if paid regularly, would bring the low rate up to the standard rate of the town, but it may easily be seen that the foreman can suspend one or more bonus payments on every job, and so cover a low quotation. The suspensions may range from a week or two in the middle of a job to the absolute disappearance of any bonus at all at the end of that particular contract. This was the usual procedure of these shops in the 'nineties; needless to say, the writer's experience was brief. The first eight weeks worked out at 10s. per week under the town rate, and no bonus forthcoming!

The usual sawmill practice is based entirely on a time rate, as, owing to the small amounts of the contracts generally, piecework is impossible. For instance, in one week's work he may have a hundred doors all alike, and the next week he may have the doors to make for ten houses, each house having ten doors, making a

that one man has a week of heavy work in front of him, and will not earn his money, so he intimates to another man who is on light work that he will be expected to make up the major part of the deficiency, which the man willingly does, as he may need the same help the next week.

A workman is naturally averse to the daily or weekly checking of his output, as a sequence of belt breakings or other unfortunate happenings may considerably interfere with results. Every machinist knows that there are days when everything goes wrong, possibly because the human machine has a flavour of bile about it; and, again, on the other hand, there are days on which three ordinary days' work can be polished off, just because everything human and metallic is working smoothly. It is such days as these latter that the workman dreads, where a close check is placed upon output, as a totally fictitious value is given to results.

Most firms have a time-sheet system, where each workman gives a more or less accurate record of the time spent on each job, and where this is done no further troubling of the workman is necessary in the method about to be described. Judging from my own experience, no dependence is to be placed on the time-sheets as regards the costing of jobs, except where a special request is made to a trusty workman to be particular with the time spent on the first batch in a fresh class of work. The usual and haphazard way is to book more time than is really worked on to the large orders, so that they are charged with the cost of the "messing about" on the

TIME SHEET.										Date, April 12. Name, John Smith.							
O. DINARY TIME.										OVERTIME.							
Description.	Ord.No.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Total.	Mon.	Tues.	Wed.	Thur.	Fri.	Sat.	Sun.	Total.
Doors	803	2	4	4	7	6	—	—	23	2	—	1	2	2	—	—	7
Sashes	804	6½	4½	5	1	2½	4½	—	22	—	2	1	—	—	—	—	3
Filing Saws	—	—	—	1½	—	—	—	—	1½	—	—	—	—	—	—	—	—
Mending Belts	—	—	—	—	½	—	—	—	½	—	—	—	—	—	—	—	—
Total	—	8½	8½	8½	8½	8½	4½	—	47	2	2	2	2	—	—	—	10

railed-in underground urinal, and beyond this is a cabstand, so that an uninterrupted view is impossible. The Northernhay site is in every way all that could be desired—lignified and quiet, with a surround of noble trees, and we cannot but believe it will be selected.

The Ruskin Centenary Exhibition arranged by the Ruskin Centenary Council was opened by Lord Bryce on Wednesday at the Royal Academy at noon. Mr. John Macfield and Sir Aston Webb, President of the Royal Academy, delivered addresses. The exhibition will remain open for six weeks. Hours, 10 to 7; on Saturdays, 10 to 1.

Reporting to the Colwyn Bay Council, Mr. W. Jones, surveyor, stated that he had sent to the Commissioner for Wales the plans he had prepared, and which the council have approved, for a number of houses. The Commissioner had again returned the whole of the drawings, with some very paltry objections. The necessary amendments to meet every one of the objections were prepared, and the plans would be forwarded again to the Commissioner as soon as the committee had met.

Mr. John Rust, City Architect, Aberdeen, died suddenly on September 24 when on his way to business. He belonged to Aberdeen, and was in the town council for over five years, resigning his seat in the magistracy in 1892, when he became a candidate for, and was appointed to, the post of city architect. He was proprietor of the estate of Benholm, Kincardineshire, and was a J.P. of that county and the city of Aberdeen. Mr. Rust, who was about sixty-five years of age, was twice married, and is survived by a widow and a family of four daughters by the first marriage, and one by the second.

hundred doors in all. The two weeks are similar, but not equal, as each house may have a 2-in. belection-moulded front door; a diminished stiled half-glass hall door; raised-panel parlour and bedroom doors; planting-moulded house doors, and ledge doors for coalhouse and the like.

So long as workmen are paid on the weekly basis no price can be fixed on such work in such mills that is equitable both to master and man. If the men were paid quarterly, however, it will be seen that the bad jobs and the good jobs would have a better chance of equalising themselves, and so a comparatively fair price could be struck. But men are not likely to be paid quarterly, and so another way must be found.

Let us examine the railway companies' system more closely. The men employed in breaking up the logs get so much per 100-ft. run. The cross-cut sawyers get so much per 100 pieces. All prices on subsequent operations are based on so much per 100 cuts. As the stuff gets smaller so the price dwindles, but it is a uniform price for uniform machines. If the price is 2s. 3d. per 100 cuts on one spindle, it will be the same on all the other spindles. Owing to the large amount of similar work to be done, this piecework system is possible in practice for railway workers even on a weekly payment basis, as there is a minimum amount of non-productive setting-up required, but it is not perfect in its action, and so a gang is formed of four or six dissimilar machines under one charge hand. This leader, then, may see

small orders. This does not matter with the system to be discussed, but is fatal to accurate costing if reliance is placed on the time-sheets alone.

Here is a specimen of a suitable time-sheet, showing how the workman fills in the sheet with date, clock number, name, etc. The cost of paper being a consideration at present, the time-sheets need not be printed with the overtime columns unless overtime is being worked, and whereas the full-sized sheet should have about fifteen ruled lines, quarter-size sheets may be ruled for those whose work is always one thing, as is usual with gas-plant men, stokers, and even with joiners on a long run of one class of work. It will be seen that a Sunday column is included. As extra pay is usually given for Sunday work, the column under ordinary time may seem redundant, but the column means ordinary hours, not ordinary rate. Thus, if the hours in the works are from 7 to 5, Sunday work between those hours, if based on a time and a half scale, would be booked in the ordinary column, but after five, if paid for at double time, would be booked under the overtime heading.

The usual filling up of the time-sheet being all that the workman will submit to, the rest has to be left to the charge hand, and he must have free access to the time-sheets, for reasons to be explained later.

As the charge hand receives the orders he re-issues them to the workman in the manner customary to the shop, but besides that he splits them up, as shown in the

appended form, which is based on a railway works piecework form.

A price per 100 cuts is fixed upon as a fair price if the work was piecework. Tenoning, morticing, spindling, surfacing cut-off lengths, planing ditto are per 100 cuts, cross-cutting is per 100 pieces; planing long stuff and sawing per 100-ft. run. These forms the charge hand keeps by himself, and, acting as his own progress clerk, he inserts at every week-end the number of cuts approximately that the man has done.

It will be seen that the hundred doors have been given Order No. 803, and as they

able in any cases where a total is under the average, as the man has had the leisure, no matter who the fault may have arisen with.

How far such a system as just described may be carried out among the machinists in engineering works, the writer is not competent to judge, nor how it could be made applicable to labourers, as apart from tying-up men. The labourers are included in the piecework system of railway shops, but as gangs, not as individual workmen. A system that does not include them in some way has a weak spot in it, as desultory labouring makes desultory

Our Illustrations.

NEW OFFICES OF THE CROWN AGENTS FOR THE COLONIES, WESTMINSTER.

Our accompanying double-page is reproduced from the developed elevational drawing shown this year at the Royal Academy. It illustrates the new Government building recently erected at the corner of Wood Street and Millbank, Pimlico. An important and most successful feature is made of the corner treat-

PROGRESS SHEET.

The following articles are to be tenoned and scribed by Tom Robinson at 1s. 9d. per 100 cuts:—

Quantity.	Description.	Cuts.	Order No.	April 5.	April 12.	April 19.	April 26.	—	—	—	—	—	—	Total Cuts
100	Door Top Rails	2	803	100	—	—	—	—	—	—	—	—	—	200
100	" Bottom Rails	2	803	82	18	—	—	—	—	—	—	—	—	200
100	" Middle Rails	2	803	70	30	—	—	—	—	—	—	—	—	200
200	" Muntins	2	803	200	—	—	—	—	—	—	—	—	—	400
125	Sash Top Rails	2	804	—	—	125	—	—	—	—	—	—	—	250
250	" Top and Bottom Meeting	2	804	—	—	130	120	—	—	—	—	—	—	500
125	" Bottom Rails	2	804	—	—	125	—	—	—	—	—	—	—	250
500	" Bars	2	804	—	—	105	395	—	—	—	—	—	—	1,000
				452	48	485	515	—	—	—	—	—	—	

are finished 125 sashes to Order 804, follow. (*Note.*—Hauncing is assumed to be done on the bandsaw; otherwise some of the items would have four cuts.) At the end of the works' week the sheets go into the time office, and a boy (or girl) adds the total cuts to Tom Robinson's score. But before the boy (or girl) puts the corresponding hours, the charge hand must glance down it, for Tom Robinson may have had four hours taking up the brasses on his machine, or he may have had half a day brazing bandsaws, so these items are marked by the charge hand, and are not included in the number of hours shown against his weekly tally of cuts.

When every column of the sheet is full, any unfinished balances are carried on to another form. At the end of a period of not less than three months a computation is made of the output, divided by the hours worked, which gives the average cuts per hour; and it will be seen how this compares with the sheet of Harry Jones and Ted Brown, who also work tenoning machines.

So long as the period is extended enough to allow the bad and the good luck, both in what may be called good and bad jobs, and also in the accidents inseparable from machinery, to distribute itself fairly evenly, a fair estimate of the worth of each workman can be arrived at. And if the prices allowed to the machines have been just, his wages for the period should correspond pretty nearly with the amount computed from the number of cuts or running feet which have passed through his hands. Where a co-partnership scheme is in operation this method would give valuable information regarding those legitimately entitled to the bonus, and the amount saved in non-rewarding the undeserving would pay for the working of the system. The intelligent workman would also get a benefit from any labour-saving devices he may have thought out and put into successful operation; even if they had escaped being noticed by the management their effects would be appreciable in the complete totals.

It would, of course, be up to the managing body to find out, in the case of low computations, whether the unsatisfactory total was due to faults in management or in the man. He may not have had the work to do, and, if so, it is hardly fair to blame him for a foreman's lack of method. Still, no bonus should be pay-

ment, where the chief entrance is placed on a big and broadly-designed splay at the junction of the two façades and carried up as a tower of good outline.

There is one sort of man that is a curse to any workshop. This system eliminates him. He is the one that is not only lazy, but also books time on jobs that he has never handled. It is a particularly mean theft, but it is a common one.

In conclusion, a reasonable time allowance should be given to the charge hand for supervision and for the necessary book- ing, so that he has a chance to show a good average along with his fellow-work- men.

THE ARCHITECTURAL ASSOCIATION. SCHOOL OF ARCHITECTURE.

The school term will begin on Monday, October 13. New students wishing to enter the school should communicate with the headmaster, Mr. W. T. Ching, with a view to arranging an interview with the principal, Mr. Robert Atkinson.

The Atelier for Advanced Design opened on September 29, under the mastership of Mr. H. M. Robertson. Architects Diploma par le Gouvernement.

Admission to the Atelier is open to archi- tects in practice, assistants, and advanced students.

Applications for admission should be made to Mr. W. T. Ching. Entrance fee for the Atelier is one guinea, and 30s. for each monthly design subject taken.

LIBRARY.

During building operations at 34 and 35, Bedford Square, the library will be closed. Before re-opening in the new premises an effort is being made to collect all library books that have gone astray.

The building of a garden suburb for Lewisham on a site near Bromley Hill is under consideration by the Borough Councils of Deptford, Bermondsey, and Lewisham.

In connection with the purchase of the remainder of the East Cloister Walk at St. Bartholomew the Great, Smithfield, the history of the priory and the architecture of the church will be explained in that building on the after- noons of October 18 and 25.

In aid of the Artists' Rifles' War Memorial Fund a matinee will be held at the Alhambra Theatre on Sunday, December 7, when, among others, the following will contribute to the programme: Yvonne Arnaud, Lilian Braith- waite, Fay Compton, Phyllis Dare, Gina Palmer, Ivy Shilling, H. V. Esmond, C. V. France, Fred Grove, Leslie Henson, and Fred Norton. Further particulars may be obtained of the Artists' Rifles' Regimental Association, 19, Craven Street, Strand.

ment, where the chief entrance is placed on a big and broadly-designed splay at the junction of the two façades and carried up as a tower of good outline. The President of the Royal Institute of British Architects, Mr. J. W. Simpson, and Major Maxwell Ayrton, F.F.R.I.B.A., are the architects. The staircase is situate in the angle, and there is no loss of space in connecting passages of the ordinary kind, because access to the various departments is directly obtained by the spacious landings leading right and left into the two wings, where the offices are divided by glazed partitions intercommunicating one with the other in a self-contained manner. The plans attached to the elevation on our plate illustrate how this is managed. The best view of the tower is obtained when approaching the building on the way from the Houses of Parliament. Above the main doorway is set the Royal Arms and a pair of symbolical figures flank this portal skilfully sculptured by the late Albert Hodge. The statues represent "Prosperity and Development" with the attributes of "Commerce, Health, and Education." These are placed on the left, and on the right is "Administration" with the attributes of "Law and Order." The composition of the elevational design is clearly shown by the drawing. The plain base is set off by the rustication carried up to the first floor level and finishing with balconies supported on consoles and disposed with the fenestration. The frieze above is enriched by a continuous arrangement of triglyphs and circles, alternating. An archway for vehicles is in Wood Street and opens into a yard to the rear. Corsham Down stone is used archi- tecturally for the ferro-concrete con- structed staircase, which is handsomely finished right up through the entire height of the premises. There is a finely- wrought balustrade in ironwork. Figures of Julius Caesar and Augustus occupy niches on the stairway hall. The ceiling above is richly coved and supported by massive consoles monumental in style. The whole building is amply lit. Badges of the Crown Colonies occupy the cove. This scheme was executed by Mr. Styles, whose name, by the wish of the architects, is inscribed as the craftsman of this work. The marble chimney-pieces were made by

Messrs. James Whitehead and Sons, and Messrs. G. Jackson and Sons did the plaster modelling. The lifts were supplied by Messrs. Waygood-Otis, Ltd. The builders were Messrs. Holliday and Greenwood, Ltd.

THE SUNDIAL, CORPUS CHRISTI COLLEGE, OXFORD.

The sundial in the quadrangle of Corpus Christi College, Oxford, has a scientific and architectural interest. It is a perpetual calendar and a structure of beautiful proportion, built of a hard white limestone, which makes a charming contrast with the warm colour of the college buildings. The arms of the four faces at the top of the column are coloured and gilded, the final being "the pelican in her piety," the college crest. Corpus Christi was founded in 1516, and the sundial erected in 1605 by a Fellow of the college, named Charles Turnbull. Our illustration is reproduced from an excellent water-colour exhibited at the Royal Academy this year by Mr. C. Tattershall Dodd of Tunbridge Wells.

TWO SKETCHES BY MR. H. S. EAST, A.R.I.B.A.: WINCHELSEA AND PENSHURST.

Winchelsea, not far from Rye in Sussex, has had a great history, and close by William the Conqueror landed. It once possessed three churches, St. Giles, St. Leonard (now gone), and its mother church, St. Thomas à Becket, of which only remains still exist. The fine chancel with its two big aisles suffice to show the huge proportions of this building. Parts of the north transept wall and ruins of the southern one as well as bits of the nave furnish further evidence of its size. The church was built of Caen stone and Sussex marble. The south aisle, dedicated to St. Nicholas, was the Alard Chantry. It contains a pair of notable tombs much mutilated, and the north aisle is furnished with three richly canopied monuments of the time of Henry III. The remnants of a detached campanile stood in the south-west corner of the churchyard till 1790. The population long ago migrated, and the village now is sparsely inhabited. A crude makeshift sort of porch, set up at the present west front, has no architectural merit, but in the spring it has a lovely appearance because wallflowers flourish very abundantly all over its lean-to roof. The quaint extemporised turret and conical roof come very picturesquely as seen from the north-east with the three east end gables of geometrical type in design. Penshurst is one of the most famous villages in Kent for historic timber-framed houses still standing in excellent condition. The cottage shown by this sketch is more lofty than the majority of its neighbours, which are chiefly rambling and low in outline. The porch is an addition.

OLD ENGLISH FURNITURE: SKETCHES FROM RECENT SALES.

The accompanying four pieces of Cromwellian date are self-explanatory, and are much in character with each other. They came from different places and were sold separately on differing dates. The prices obtained were considerably in advance of pre-war figures. Just at the present time everything of the sort is keenly acquired, particularly genuine old examples such as these two chairs and pair of tables. Much furniture of this class changes hands readily enough among private purchasers without the intermediary of "the trade," as little

chance remains for such goods to reach the shops, seeing that current sales ensure record sums. Much of this competition is possibly due to commissions from America.

BONDING NEW CEMENT MORTAR AND CONCRETE TO OLD CONCRETE.

It frequently is necessary in construction and repair work to join fresh concrete to old or to concrete which has partially set. In order to obtain definite data on the relative value of various methods of increasing the bond an extensive series of tests have been carried out in the Engineering Research Laboratory of the Canadian Bureau of Public Roads. This series included:—

1. Tests on the bond strength in tension of a 1:2 mortar in the form of the standard tension briquette.

2. Tests on the bond strength in cross bending of a 1:2/3:1-1/3 concrete in 4 by 4 by 14 in. prisms bonded to concrete slabs.

3. Tests on the bond strength in shear of a 1:2/3:1-1/3 concrete in specimens in the form of 8 in. cylindrical discs, 2 in. high.

4. Tests on the permeability or watertightness of the joints formed by various bonding methods. The same specimens were used in this series as in the shear tests.

The conclusions drawn from the tests are summarized as follows by W. E. Rosengarten, U. S. Highway Engineer, Bureau of Public Roads, in a recent publication of the Bureau.

BOND STRENGTH IN TENSION.

It may be safely stated that the ability of fresh mortar to adhere to older material decreases rapidly as the old sets up. Where the older material has set for 24 hours before adding the fresh, the bonding strength is but 44 per cent. of that of monolithic construction. Further ageing of the old mortar causes a slight decrease in the bonding ability, which at 7 days is 39 per cent. of the original, and at 28 days has reduced to 35.5 per cent.

The bond of new concrete to old can, however, be increased by various methods, which include treatment of the old surface, the use of a bonding medium and care in handling the new concrete.

The old surface can be treated to increase the bond either by roughing with a steel tool or by a treatment of dilute hydrochloric acid (1:10 concentrated acid and water). The acid acts on the cement particles, dissolving them and leaving the clean surfaces of the aggregate. The remaining salts should be washed off thoroughly. Roughing the surface increases it 13 per cent., except in the case of the tests where the old concrete has aged seven days, in which case there appears an unexplainable detriment to the bond due to the acid treatment. Combining both roughening and then treating with acid gives but a slightly greater bonding ability than either by itself.

The application of a thin layer of cement butter as a bonding medium has a decided effect in increasing the adhesive strength. An additional 25 per cent. in strength is developed by the addition of the cement butter layer. If the cement butter layer is allowed to stand one hour prior to adding the fresh mortar, an additional 3 per cent. may be added to the strength. The use of a proprietary compound mixed in with the neat cement butter appears to be of little additional value.

The hard tamping of the new mortar against the old, thus forcing it into the pores, has a tendency to increase the strength of bond about 8 per cent.

The broken surface showed a greater bond than either the plain moulded or natural surface, as might have been expected. The roughing of the two latter characters of surface had the effect of placing them on a par with the broken surfaces.

The ability to bond to the moulded and natural surfaces appeared about equal. A tendency, however, is noted in the case of the surface moulded against forms toward a decrease in the strength as the age of old concrete increases, while the natural surface

appears to remain fairly constant after the concrete has aged 24 hours.

The effect on the bond of wetting the old mortar surface is hard to determine from the results of these tests. It is at present the usual practice to wet the old work thoroughly before attempting to bond fresh mortar to it. In about half the above tests this appears to have a detrimental effect, decreasing the bond strength about 10 per cent., while the other half shows it to have increased the bond strength 5 per cent.

The use of a bituminous bonding material is of little value.

The use of sodium silicate appears to have an effect on the bonding strength.

BOND STRENGTH CROSS-BONDING.

The use of the hydrochloric acid wash on the concrete specimens appears to give a slightly greater bond than does the mechanical roughing of the surface. In the case of the old mortar briquettes the opposite was the case.

The old concrete surface wetted develops a bond of only a little over one-fifth the strength of the monolithic concrete; roughing the surface or giving it a hydrochloric acid treatment increases the strength one-sixth, and the application of a cement-butter layer adds an additional one-fifth.

The result of this series of tests shows the wetting of the concrete to be beneficial. The suggested theory that the cement particles are drawn into the old dry concrete by capillary action, thus increasing the bond, does not appear to be borne out by the tests.

The ability of the fresh concrete to adhere to the old decreased rapidly during the early stages of setting of the old concrete, from 100 per cent. to about 30 per cent. in the first twenty-four hours. After the old concrete has taken its final set the decrease with the age is very slight.

In general it appears that (a) by careful treatment new concrete can be made to adhere to old with a strength equal to 60 per cent. of monolithic concrete. If a greater bond than this is desired it will be necessary to resort to dowels drilled into the old concrete.

(b) If no special treatment is given the old concrete other than cleaning off foreign substances before adding the fresh concrete, a bond of but 20 per cent. of the monolithic concrete is developed.

(c) The surface of the old concrete can be roughened or treated with a 1:10 dilute solution of hydrochloric acid which will increase the bond by 20 per cent. of the strength of the monolithic concrete.

(d) A bonding medium of a thin layer of neat cement butter spread over the surface of the old concrete will increase the bond 20 per cent. of the strength of the monolithic.

(e) Tamping the fresh concrete hard against the old concrete, forcing the cement into the pores, increases the bond 5 per cent. of the strength of the monolithic concrete.

It must be remembered that the above conclusions refer to a rich concrete—namely, 1:2/3:1-1/3, and that for leaner mixes the percentages very likely would be increased.

SHEARING STRENGTH.

The shearing strength of a joint is greatly increased by a treatment of the surface of the old concrete, and although it may slightly increase the cost of the work, the added effect would certainly seem desirable.

PERMEABILITY.

The results of this series show that there is no danger of leakage at a joint made in concrete of a mixture as rich as 1:2/3:1-1/3, under pressures up to 40 lb. per square inch, when the surface of the old concrete has been treated.

Mr. Horace M. Lawson, of Birmingham, has been appointed borough surveyor of Deptford, at a salary of £600, rising to £800 a year, and Treasury allowance as local fuel overseer. Mr. Lawson, who is thirty-seven years of age, went to Birmingham in 1912, after having been in the service of the Chelsea Borough Council, London, for two years. Mr. Lawson secured the Deptford appointment out of fifty-three candidates.

A FRENCH REINFORCED CONCRETE CRANE.

Because of the enormous demands of the reconstruction work in France for sheet iron, plates, flats and structural shapes, a French concern, the Beccat Co., realising that the difficulty of obtaining these materials would continue for a long time after the declaration of peace, experimented with, and has satisfactorily developed, a crane of reinforced concrete.

The construction of this crane is described in "Le Genie Civil." It was developed as follows:—

1st. Experiments with the construction of cranes of several different types.

2nd. Experimental design of beams which would have not only the necessary rigidity, but also sufficient elasticity, to withstand easily the shock of sudden loads, and to prevent the formation of cracks which might

a capacity of 6,600 lb. (3 tonne) and a span of 32.8 ft. (10 metres). The arrangement of the reinforcing in the main and secondary members is also shown.

The rolling gear of the crane is removable, and so attached that it can be adjusted to take care of any warping of the crane. The rollers and bearings as well as the drive shaft are all easily removed and replaced.

These cranes are constructed of a rich concrete, 2.3 bbl. (400 kilo.) of cement to 1.18 cubic yards (0.9 cubic metre) of gravel, and 0.52 cubic yard (0.4 cubic metre) of sand. This concrete develops a crushing strength of about 730 lb. per square in. (55 kilo. per square c.m.), and a bond strength with the reinforcing of about 80 lb. per square in. (5.5 kilo. per square c.m.).

The weight of these cranes is always less than twice the weight of an ordinary steel crane of equal capacity

In each member the steel and concrete have been so proportioned that—

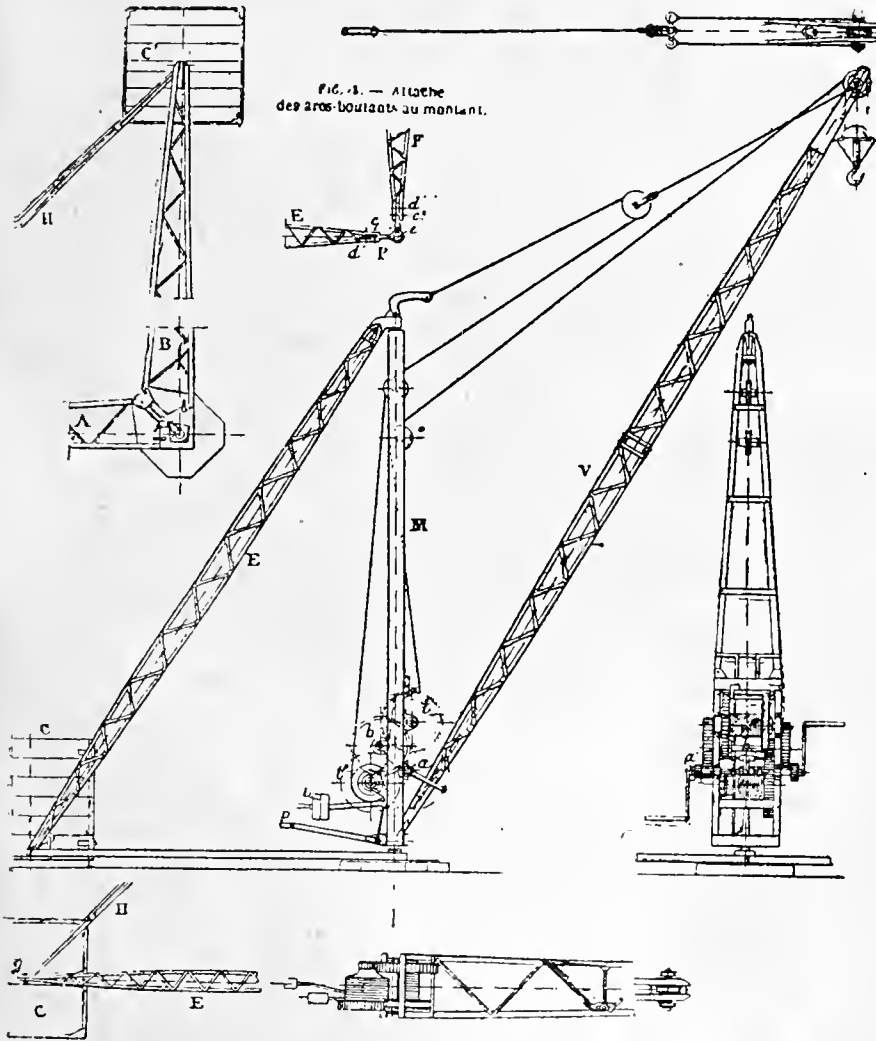
(a) In the tension members the reinforcing alone will be sufficient to resist all tensile stresses developed by the dead and live loads.

(b) In the compression members the concrete and steel will withstand easily the stresses developed under the most unfavourable conditions of loading, taking into account the supplementary stresses due to bending.

(c) In the bending members the longitudinal steel alone must be able to resist the sudden stresses, and the allowable bond stress must never be exceeded.

In addition, hooks on the ends of the bars, stirrups, and hoops have been provided to decrease any tendency of the reinforcing to slip.

It will be interesting to follow this new application of reinforced concrete until this type of travelling crane has proved satisfactory.



endanger the strength and durability of the crane.

3rd. As a result of these experiments, to determine the distribution of reinforcing rods.

4th. To so connect the reinforcement of the main beams with the cross beams at the end that the different members will act together as a monolith.

5th. To provide for easy moulding and dismounting of the driving mechanism.

The use of reinforced concrete for building cranes has the following advantages:—

1. The substitution of ordinary bars for structural shapes.

2. Their construction at the factory where they are to be used, this construction being carried out simultaneously with that of the building, by the same contractors and with the same materials. All of the mechanical and electrical equipment need not be brought on the job until the crane is ready to be operated.

The illustration gives a general view and the details of a reinforced concrete crane with

This difference in weight will be decreased in the future by the use of a different kind of steel and the substitution of an artificial stone for the crushed stone and gravel. According to experiments made during the last few months in the United States, the concrete made of artificial stone shows, as compared to ordinary concrete, a compressive strength about 25 per cent. greater, a bond strength about 20 per cent. greater, a resistance to impact about 4 per cent. greater, and a weight 18 per cent. less. The use of this concrete will decrease the weight of the crane from 1.5 to 1.6.

To obtain a proper factor of safety, the maximum fibre stress in the concrete of compression members is limited to 493 lb. per square in. (35 kilo. per square c.m.), even under the most unfavourable conditions. The maximum allowable tensile stress in the reinforcing is 17,000 lb. per square in. (12 kilo. per square m.m.). This value is taken because it is necessary to use reinforcing with a high resistance to rupture but with a very low elastic limit.

EFFECT OF EXPELLING MIX-WATER FROM CEMENT MORTAR.

Precast concrete made in the usual way from wet mixes is in wide use, and a study of the possible improvement in strength by a positive method of decreasing air and water voids has been made in the Materials Testing Laboratory of the Department of Civil Engineering, University of California. In the series of tests which were made, exceptionally high strengths were obtained.

For the purposes of the investigation a mould was designed, made of steel, and is a hollow cylinder with a solid plunger in each end. The plungers fit perfectly the interior of the cylinder, and the space between them forms the pressure chamber. The cylinder is essentially in two parts, an outer shell and a tapered lining in four sections, all of which are perforated with small holes terminating in longitudinal grooves in its outer surface. The grooves permit the escape of the water forced out of the pressure chamber.

In moulding a specimen, the applied pressure was immediately released when it had reached the predetermined amount. The lining of the mould was slipped out and lifted apart to free the hard cylinder of fresh mortar, which was then placed in a standard moist closet to cure. The control specimens, which were made without pressure, were removed from their moulds forty-eight hours after being cast and then stored with the pressure specimens.

In the various experiments made with this apparatus pressures up to 30,000 lb. per square inch were used. No attempt has been made to estimate frictional losses. All pressure applied by the plungers is not transmitted throughout the mortar, because of the friction of the mortar against the side of the cylinder while the water is being squeezed out. Also, the diameter of the plungers is increased at the high moulding pressures, thus producing a further absorption of applied force.

In spite of the loss of cement which is carried in suspension by the expelled water, and the unequal distribution of moulding pressure throughout the mortar specimens, the strength of 1:4 mortar moulded under the highest pressure was 2,910 lb. per square inch. This is 12.2 times stronger than the same mortar which was allowed to set and harden under the usual conditions as indicated by the control specimens. (Abstracted by the *Technical Review* from *Engineering News Record*, July 17, 1919.)

A council of representatives of Jewish organizations and congregations is being formed for the Jewish War Memorial, which aims at raising £1,000,000 for the endowment of religious education and the building of a Jewish Theological College at Oxford or Cambridge.

A number of valuable gifts have been recently made to the Guildhall Art Gallery. Mr. Topham, sculptor and painter, has presented a picture representing Gracechurch Street at the time of the plague in 1666. Miss Evelyn P. McGhee has given over a score of water-colours. Sir Marcus Samuel has presented G. F. Watts's "Ariadne in Naxos," and Lady Battersea has given a marble bust of "Clytie."

ESTIMATING ON BUILDING CONTRACTS.

By CYRUS J. PARKER.*

There is no question in my mind but what we all make errors in estimates. As a matter of fact, when we get a job that is when we begin to wonder where we have made our error. I have heard fellows say: "How to the devil did I make my mistake?" They feel that contracts are let on errors, judging from the amount of money the contractors claim they have left when they complete their work. You will find in estimating that a man will have to make up a system of his own. I think that every man's method of contracting is peculiar to himself. It would be impossible for me to lay down such a system for another man, while I might take the system I have worked out and be very successful with it. You can buy trade accounts and hand-books on estimating, and the majority of them I have read I would not give the snap of my finger for. The work is always different. You never have two pieces of work that cost the same.

I want to call your attention to a few methods of estimating. I happened to spend a few years in Louisiana, and I knew a contractor there who put in his estimates on the basis of cubing or squaring a foot in figuring on it. He is not in business any more. It also reminds me of a fellow who secured a set of plans that were quite bulky and after looking them over handed them to his partner saying: "Take these damn things and go and weigh them and we will put it in." I know another contractor who claimed he could take a set of plans home in the evening and bring down a figure the next morning. He does it, and it is remarkable how close he comes to the value of it. But personally I would not want to risk that kind of a method. For my part I would rather take all of the quantities off in detail and base the estimate on some method of cost keeping that we might adopt. Each one would have to do it to suit himself. There is one advice I would like to give, however, and that is, if you keep a cost system, do not keep it in such a cumbersome manner that you cannot handle it. I knew a contractor in Portland who did a large business but used a worn-out system, and he could not use it any further and went broke. To my mind, after you have a cost system worked out, you must have it in simple form so that you can combine it with good business judgment and the experience you have had in previous work, basing your estimate accordingly.

In estimating a plan it is necessary to find everything on it. If you do not, you may find after you have signed the contract a few lines on the specifications that may cost you hundreds of dollars. I heard of a fellow who was constructing a building and noticed the initials "TR" in all the doors on the plan. After he had the building plastered the architect came around and asked him where he was going to put the transoms. His answer was: "There are no transoms on this building plan." The architect said, "Yes, there are. Let me have the plan and I will prove it to you." He proved it to him as he had "TR" on every door. After that experience the contractor always looked for all the TR's on the plan in every contract he secured.

I happened to be brought in on an arbitration case at one time where the contractors figured from a large plan $\frac{1}{8}$ -in. scale drawings. They had a large marker there, and from the elevation you might have struck there was a cornice around it that might have been of ordinary galvanised iron. The contractors presumably figured on some character of cornice on the outside. After the contract was signed and the building partially completed, the details showed a heavy cast iron cornice around the outside and cross beam incased in cast iron. The cast iron alone cost \$1,100. The arbitration committee allowed the contractor for that. But it is evident that in figuring a plan we should not take the chances with $\frac{1}{8}$ -in.

scale drawing and put in a figure where we stand the chance of losing money, as this man did. And even if he did get the money allowed him by the arbitration board, there was trouble and dissatisfaction with the architects and all concerned. It is best to ask for details. Some contractors seem to think if you go to an architect and ask for details he will think you do not know your business. I think that is a part of their business; that is what they are getting paid for, furnishing details so a man can figure intelligently on a plan and not take a chance.

Another thing. An architect frequently resorts to generalities in his specifications, such as "according to the satisfaction of the architect" and "in first class workmanlike manner" and "materials of best quality." Those are a few, and there are many others that they put in specifications to which you have to give consideration in estimating. How is a contractor to know the specific temperament of an architect when he wants it done to the satisfaction of the architect when he does not know what will satisfy the architect? So there should not be a general item of that kind in the specifications.

There is not one contractor in a hundred who reads the clause, "materials of best quality," and realises the interpretation that an architect intends to place on it. These must all be considered in estimating. If you do not do so, an architect, if he is inclined to be unscrupulous, could make it very unpleasant for a contractor. And then comes the old clause saying: "This is intended to be a complete job, supposed to include everything necessary, even though it is not particularly mentioned." Half of the plumbing might be mentioned. But the part that is not mentioned must be put in, if you have that kind of a specification. You must consider all these items in compiling your estimates. They are just as important as taking off the quantities. In fact, they are often more important.

There is another thing: In the past many contractors resorted to asking sub-bids on their work. Possibly at the present time many do this, and possibly many may do so in the future. They act on the sub-bids they get and guess at the rest. A lot of them take sub-bids and immediately after they have been awarded the contract, the contractors forget the sub-bidder who gave the bid and wasted time on it, and immediately start out to find more sub-bidders, after having taken the time of the original sub-bidder.

Another method practised by a contractor I once knew, whom I should say is out of business at this time, was to take sub-bids and revise them 5 per cent., saying he would beat the sub-bidder out of that much and that would make his regular bid 5 per cent. lower than the rest of the general contractors.

It seems that it might be possible for contractors to get together and adopt some system of quantity surveying. We would not need to make it a guaranteed survey, but could employ some man in the association. We would not be bound to use the figures of the survey, but it could be used as a check against the quantities we take off. It seems to me that we might work up something along this line that would be beneficial to contractors generally. It is not practical for contractors to take the immense risks taken by them in the past. Contracting is just as legitimate a business as any mercantile business carried on in a legitimate manner, and I would favour the establishment of a method of opening up bids that would prevent any increase being made to them before they are put in. It is possible to select one out of the association and turn all the bids over to him and let him check them or audit them in a way, and if he finds an error let him refer it back to the original bidder. It would be a check on his estimate and at the same time it would be playing the cards on the table. We have passed the stage where we can play other than the square game. The old-time contractors who played the game of opening up figures and adding a certain amount of

them have lost all the money they made on that method of figuring.

I believe the contractor should prepare himself so that he would take the entire quantities from the plan and not be tied up to a sub-contractor. I think, as a matter of fact, the contractor who plans to take all of the quantities off himself is in a better position to take the figures after he has the job than he is before the job is awarded.

LAND-WORKERS' DWELLINGS IN EAST PRUSSIA.

Kurt Frick, district architect for Stallupönen, in East Prussia, describes in an article translated by the *Technical Review* from *Die Volkswohnung* of May 24 last, the destruction caused by the Russian troops when they overran this part of East Prussia in the early days of the war. The article is well illustrated with drawings showing the type of houses in general use before the war for the small tenant farmers, and the improved designs which are now to be substituted. The houses were of a much poorer class than those in the West of Germany or in any of the other States forming the German Federation.

There are two kinds of houses in the district of Stallupönen, (1) those occupied by the paid labourers of the freeholder, a large part of whose wages are paid in kind, and (2) those occupied by the free land workers. The general arrangement of dwelling for the former class is shown in a plan: it consists of a block to house four families. For each family there is only one room, which serves both as a living room and sleeping chamber, and is 4.50 m. long by 3.42 m. wide. In the centre of the block is a dark kitchen 2.70 m. by 2.90 m., containing four separate cooking stoves, two at each side; at each end of the kitchen is a small lobby, each forming the access for two families. The block measures 14.6 m. by 7.40 m. over-all for the four families, and is built of loam-pisé, similar to what is known in the West of England as "cob" construction, or log huts with thatched roofs. The height from the floor to the underside of the roof beams is usually 1.8 m. or 1.9 m., so that for an entire family there is only about 36 cubic metres of air space in the general living and sleeping room. As the family generally consists of six or seven persons there is thus only about 5 or 6 cubic metres (say, 200 cu. ft.) of air space per person, which is quite insufficient.

The author then describes the damage done by the Russians, who not only ruined the towns, but in the district of Stallupönen itself alone destroyed at least 400 such dwellings and a far larger number of the houses of the free labourers. To take the place of the older buildings the Government has decided to build new ones on a better and larger scale, and several designs are given.

The President of the province of East Prussia, von Batoeki, has decided that each of the new houses shall cover a ground area of at least 200 square metres instead of 108 square metres, that each dwelling shall have a kitchen-living room, a sitting room bedroom, and a small bedroom. Some of the old houses were built upon a ground area of only 92 square metres, and therefore were still worse than those described above. The new houses would be built in rows of four dwellings.

Tables are given showing the cost of such improved houses for the years 1916, 1917, 1918, and 1919, which are, of course, all far higher than the costs for 1914. The difference in price between the pre-war cost and the present cost will be borne by the State as to three-fourths of the difference as recompense for war losses and as to the other fourth as a loan, free of interest, with easy terms of repayment.

Prospective views are given showing how three or four blocks of these houses can be grouped so as to give a satisfactory architectural effect. The action of the State will thus provide far superior dwellings for the land workers, but will, of course entail an increase in taxation.

Tenders received by the Medway Guardians at Chatham for the painting of their cottage homes vary from £1,100 to £525.

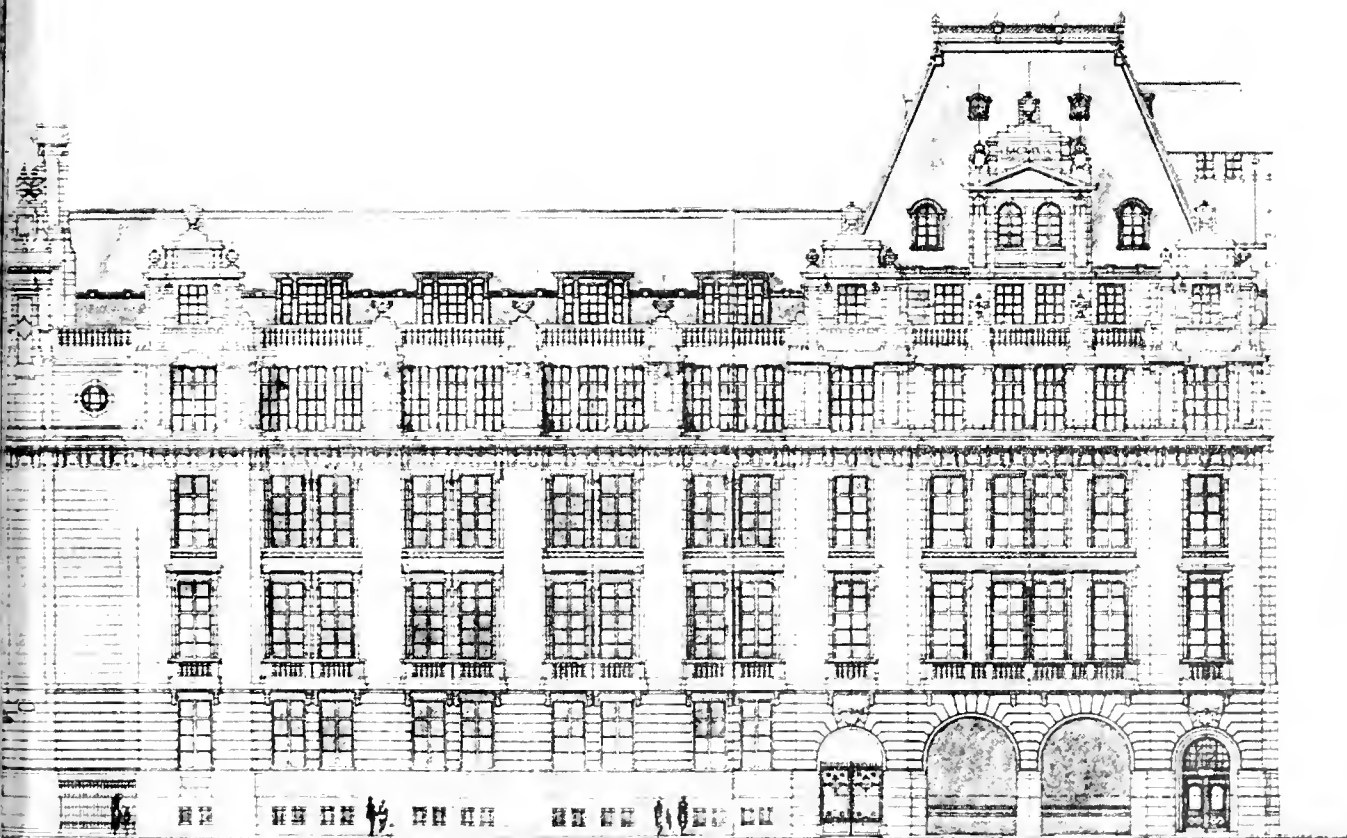
*From a paper presented before North-West Master Builders' Convention, Seattle.

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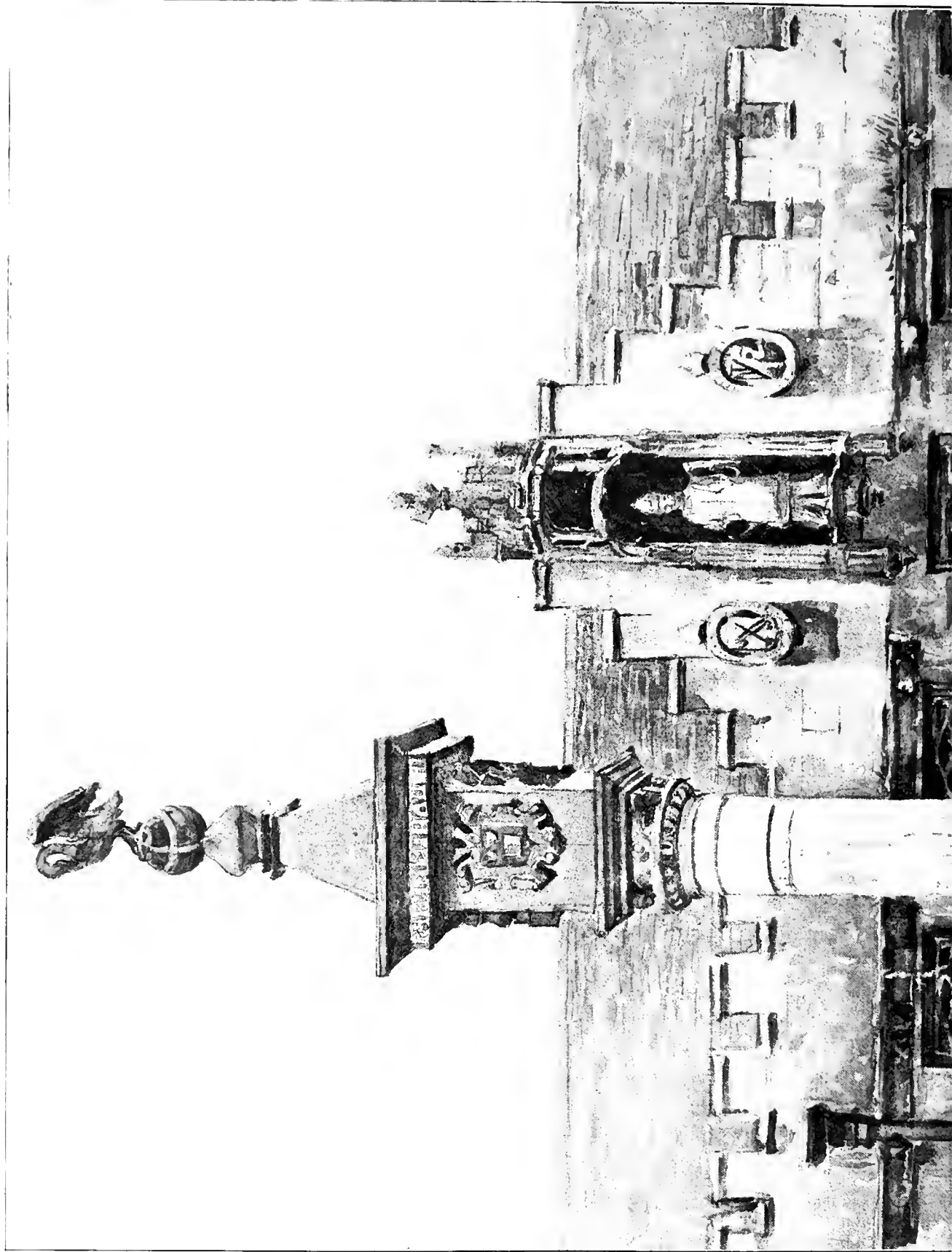
NEW OFFICES OF THE CROWN AGENTS FOR
Messrs. JOHN W. SIMPSON, P.R.I.B.A., and M.

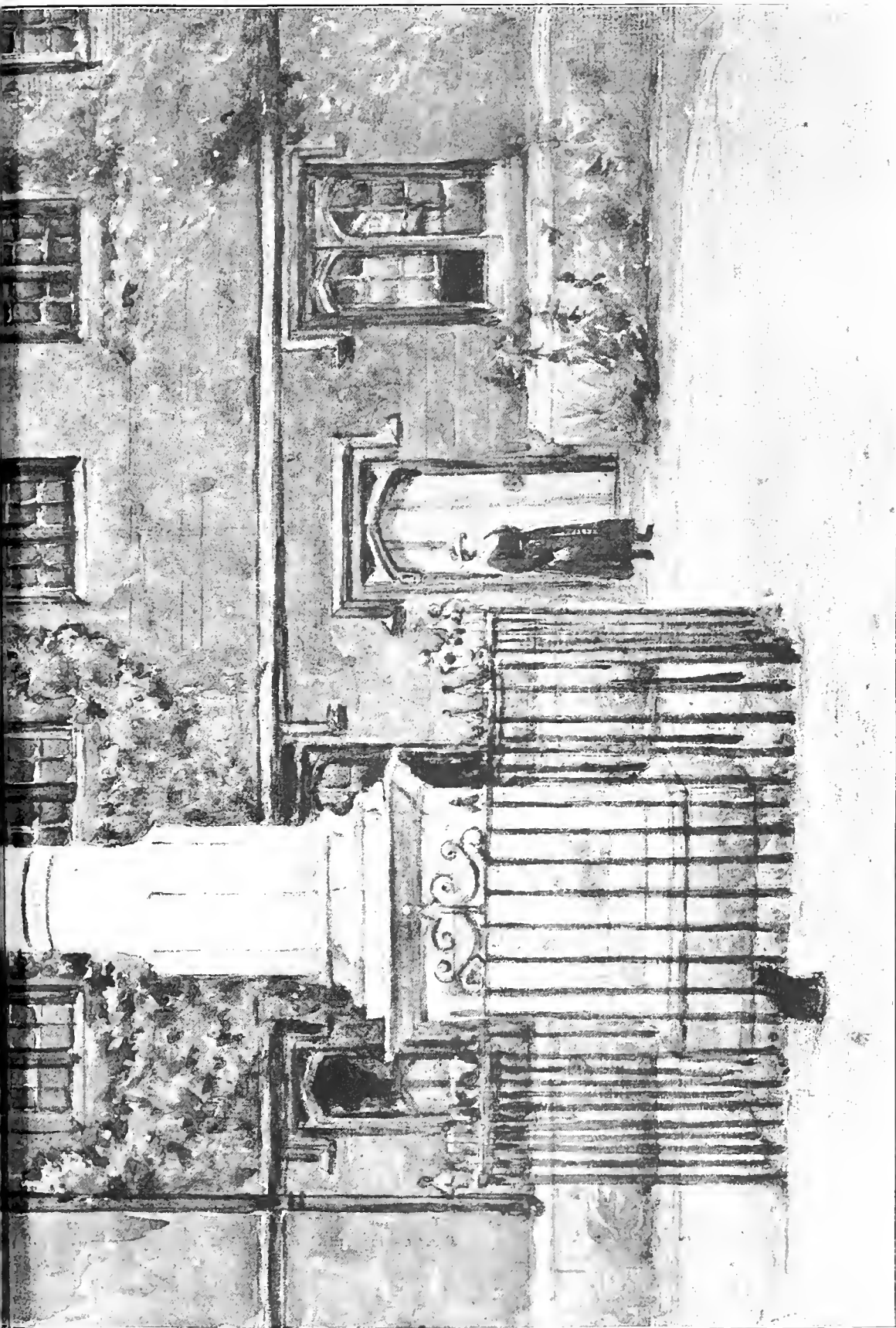
OCTOBER 3, 1919.



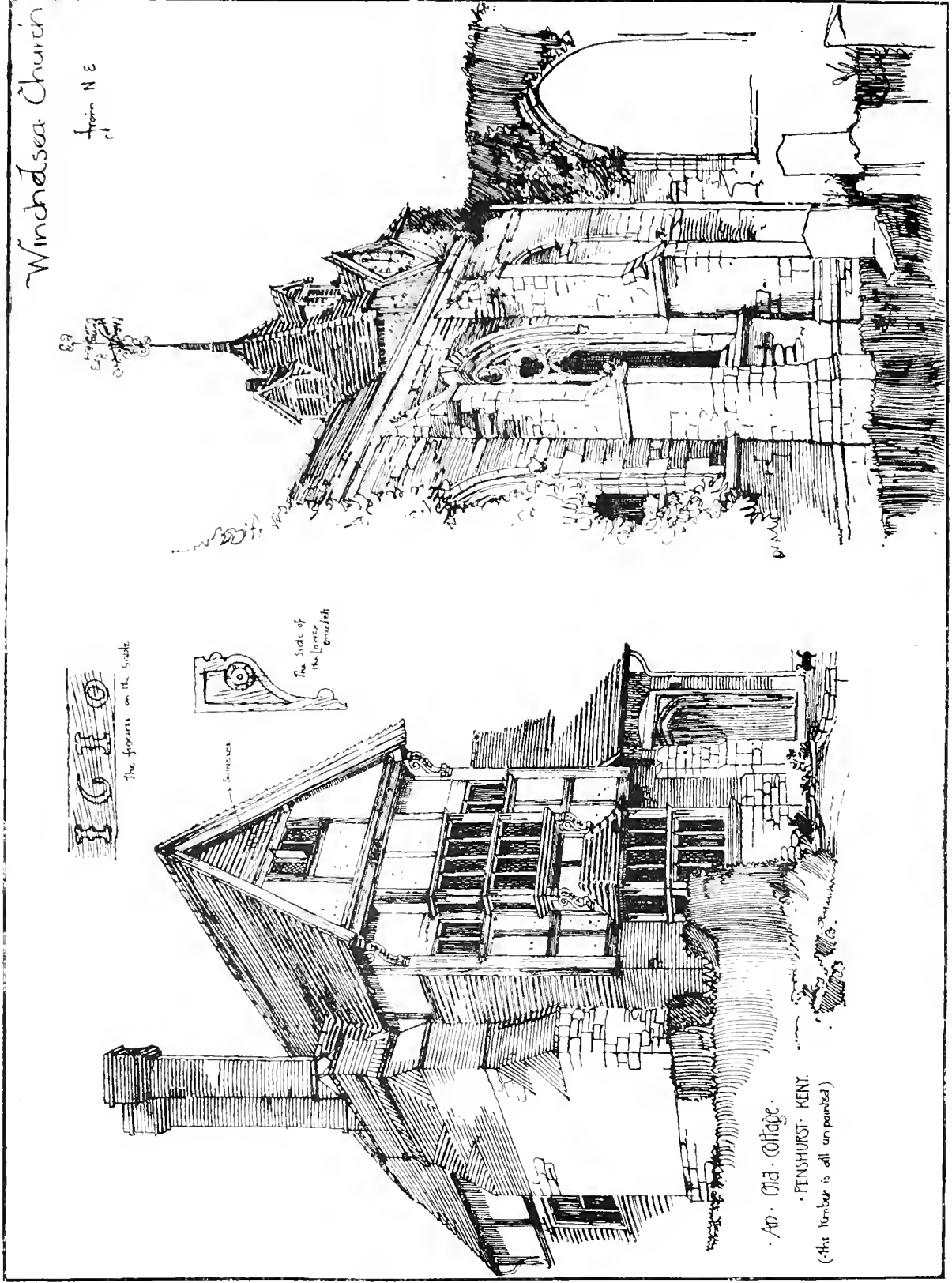
THE COLONIES ERRECTED AT WESTMINSTER.
MAXWELL AYRTON, F.R.I.B.A., Architects.

THE BUILDING NEWS, OCTOBER 3, 1919.

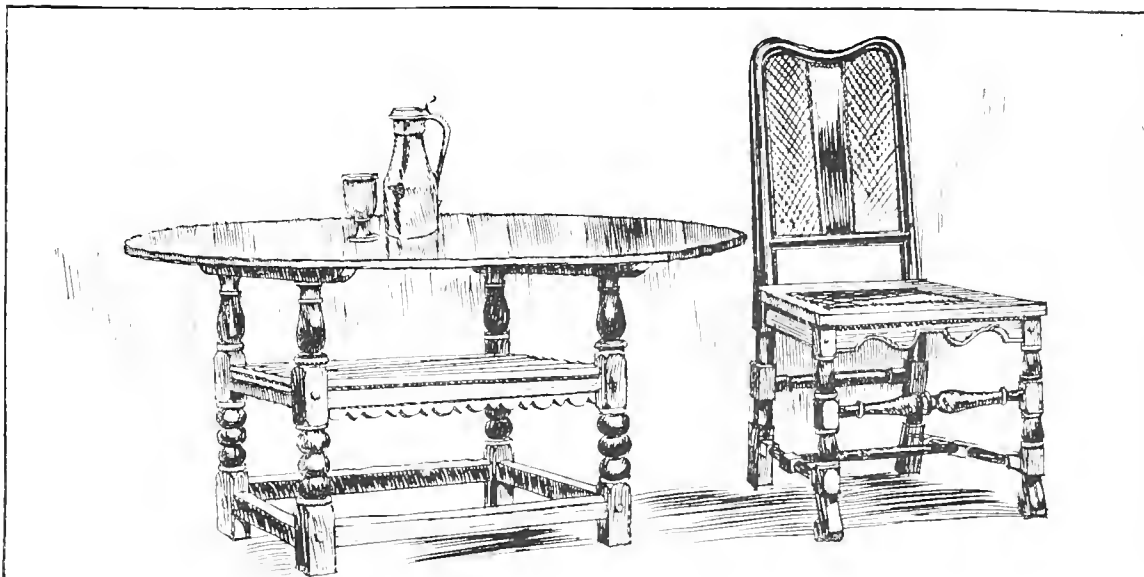




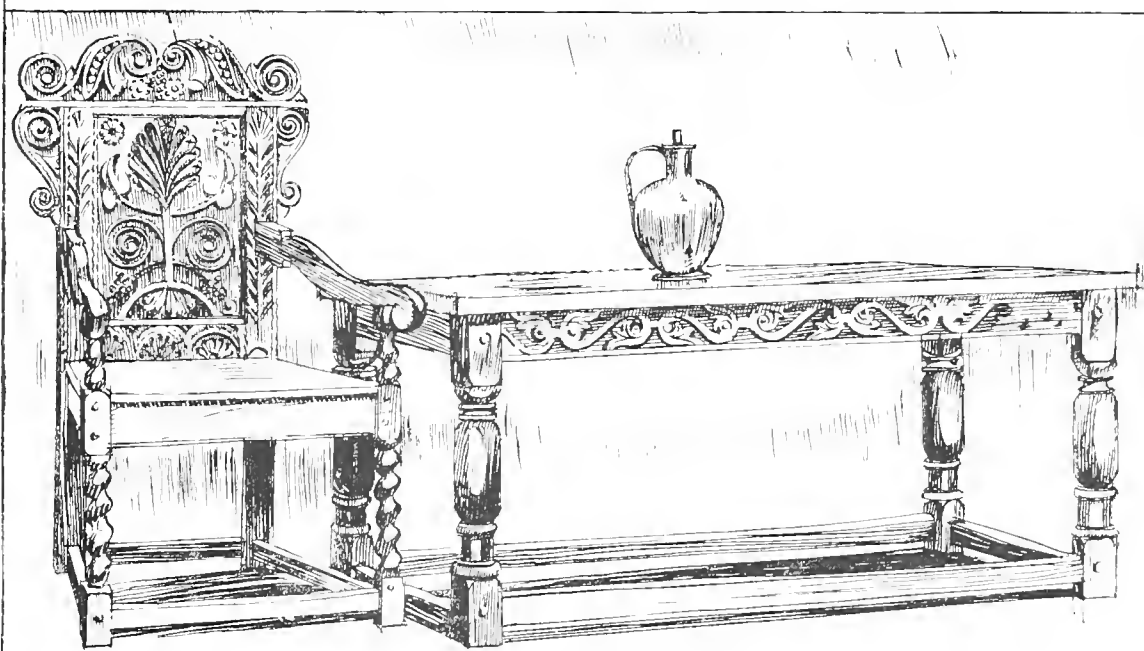
THE SUNDIAL. CORPUS CHRISTI COLLEGE, OXFORD.
From a Water-Colour by Mr. C. TATLER-HALL DODD.



TWO SKETCHES BY MR. H. S. EAST, A.R.I.B.A., FROM PENSURST AND WINCHELSEA.



CROMWELLIAN RISING TOP TABLE & OAK CHAIR



A CROMWELLIAN REFECTORY TABLE & CHAIR

OLD FURNITURE SKETCHES FROM RECENT SALES.

WOMEN MANAGERS OF HOUSING RE-CONSTRUCTION SCHEMES — A CROWN ESTATE.

A scheme of reconstruction which should be of interest to local authorities about to exercise the new powers conferred upon them by the Housing Act has been undertaken by the Office of Woods on a London estate near Regent's Park, belonging to the Crown, and is thus described in *Housing*.

The area in question lies to the east of Albany Street. It forms part of an estate, known as the "Marylebone Farm," which about 100 years ago was leased by the Office of Woods principally for residential purposes, ample provision being made in the type of building for all classes. The estate includes the Cumberland Basin connected with the Regent's Canal, Cumberland Market, an ancient market for the sale of hay and straw, and two other open spaces. The market is now seldom used, but it is still paved with setts and furnished with a weighing house. The other two spaces are squares, laid out with trees and shrubs, and are managed by the London County Council.

During the last year or two many of the leases of property of the tenement class have fallen in, and others, which are not yet quite due, have been surrendered by the owners, in preference to putting the houses into repair.

With the gradual falling in of the leases, the Office of Woods were faced with the question whether the site was again to be let on lease, or whether it was to be held and managed on behalf of the Crown. The latter course was happily decided upon, and it was resolved to place the property immediately under the care of Miss Jeffery, an experienced house property manager, trained under Miss Octavia Hill's system, who has under her a staff of trained women.

The plan of reconstruction, which includes rebuilding most of the houses, and altering the course of some of the streets, is being prepared by the Office of Woods. It is intended to convert Cumberland Market into a public garden, and to form one or more children's playgrounds in addition.

Rebuilding is hardly to be thought of for the moment. The immediate need is to make the existing houses reasonably fit for habitation. Most of them are dilapidated, and some of them are filthy. Back yards have been built over, and in some instances another cottage has been put up, the only entrance to which is through the house which faces the street. The property has been for the most part badly neglected during the later years of the leases, while in the earlier years little care was exercised to see that the conditions of the lease were not departed from.

Miss Jeffery has opened a small office on the estate, as a centre from which the rents of the houses are collected week by week. On their visits the women managers find out what repairs are needed to make the houses habitable and clean, and supervise the repairs already in hand. Miss Jeffery and her assistants are thus in constant touch with the tenants, helping them in many ways, and inducing them to do their part in improving their surroundings. While insisting that necessary alterations and cleansing must be carried out forthwith, the managers do their best to study the comfort and convenience of the tenants as far as possible. If the tenants must be removed for a time, temporary accommodation is found for them.

It is intended that the number of licensed houses on the estate shall be reduced as the leases fall in, and the managers are taking steps to ensure improved management, on Public House Trust lines, of those that will remain.

About 170 families (representing a population of nearly 1,000) are already paying their rent to the women managers, and fresh houses come in every few weeks. The managers, with the Office of Woods behind them, believe that the work of reconstructing the estate can be successfully accomplished only if they can ensure the goodwill and co-operation of the present tenants. With this end in view, they called a meeting of the tenants already on their rent roll in March last, and suggested the formation of

a Tenants' Association. The intentions of the Office of Woods with regard to the estate were explained to the meeting, as well as the reasons for desiring the tenants themselves to combine and co-operate in carrying out the scheme. The Association has been formed, a chairman elected, and several other meetings have since been held. The scope of the scheme has been further explained, and points arising in the management—such as whether rates should be paid direct to the local authority or with the rent—have been discussed. That the powers and responsibilities of a Tenants' Association are beginning to be realised is shown by the fact that within the last few days a petition has been put forward by the Association, asking that one of the first buildings to be put up on the estate may be a building containing rooms in which working men's clubs may be held; at present these clubs, several of which have a large number of members, are held in the public-houses, because there is no other place for them.

The scheme bids fair to be a success. The necessary changes will be carried through with the least possible disturbance and friction among the tenants, because the women managers have already won the confidence of a large number of them. Many tenants do not want to part with their old cottages, dirty and dilapidated as they are, and others are afraid that when the new houses are built they will not be the persons to get them. The women managers, being on the spot, will get to know the individual needs of each household, and they will use every effort to meet the needs of these households when the houses are rebuilt. In the meantime, they are in a position to persuade the tenants gradually to adopt higher standards of cleanliness and comfort, and so enable them to take care of the new houses when they get them.

Local authorities who are about to take over slum areas and reconstruct them may find it of advantage to follow the example of the Office of Woods, and place an area, as soon as it comes into their hands, under the management of women educated and trained for this work.

DOPING A LEAKY WALL.

When exterior excavation exposed the outside face of the old masonry wall of the canal lock in the Ohio River near Louisville, Ky., considerable leakage developed through open joints and weep holes and around the foot of the wall. The latter were remedied by building a 12 x 18-in. concrete backing against the bottom of the wall, the weep holes were closed with wooden wedges, and the joints were caulked with sacking.

These remedies were expensive and not very satisfactory, and were eventually superseded by the use of a small wooden box with perforated bottom and one vertical side open. The box was filled with a mixture of fine cinders, sawdust, and manure, and was lowered against the face of the wall at the leaking points with the open side of the box held close against the masonry. The water flowing through the joints and cracks carried with it the contents of the box and gradually filled them so that the leakage was nearly stopped. The device was operated by seven men.

The Ministry of Health has refused to allow Willesden to build two concrete houses as an experiment. It was estimated that they could be built at half the cost of brick houses.

The building of an English church in Ypres, to cost £25,000, as a memorial to our glorious dead, is about to be commenced. The names of units which fought in the salient will be placed on the walls.

Sir John Soane's Museum, 13, Lincoln's Inn Fields, W.C., interesting house and art collection, is open free on Thursdays and Fridays in October, 10.30-5, and in November, 10.30-4. The museum opens October 2.

An exhibition of etchings by Augustus E. John, including a number of plates not previously published, will be opened at the Chenil Gallery, by the Town Hall, King's Road, Chelsea, on October 29. Etched impressions of drawings by Rodin will also be on view.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended September 20 was 180 bringing the total number of schemes submitted by local authorities and public utility societies to 5,014, comprising approximately 46,000 acres. The total number of schemes approved is 1,643, comprising about 29,000 acres. The number of house-plan schemes submitted is 587, representing 35,153 houses. House-plan schemes representing 21,509 houses have been approved.

In pursuance of the scheme of converting suitable houses into flats for the working classes the London Housing Board have now inspected 3,500 dwelling-houses in London. Of this number 1,150 have been found to be suitable to the purpose in view, and it may be expected that they will be readily available for purchase. Additional houses to the number of 950 which have been under the inspection of the Board may, it is hoped, be found obtainable for this purpose of conversion.

The Ministry of Health have appointed a committee whose duty it will be to consider the principles which should be adopted in the clearance of slum areas. This body, which is a sub-committee of the Advisory Council on housing, will be known as the Slums Areas Committee, and will consist of Mr. Neville Chamberlain, M.P., as chairman, Mrs. E. Barton, Mr. R. L. Reiss, and Mr. E. J. Brown, to whom Dr. Addison has added Mr. C. W. Bowerman, M.P., Dr. W. J. Howarth (Medical Officer of Health for the City of London), Mr. R. C. Maxwell, and Mr. G. L. Pepler.

The Ministry of Health have also appointed an Agricultural Rents Committee to consider the initial rents to be charged by local authorities for houses built under the Government scheme in rural areas. Of this committee Mr. H. Hobhouse is the chairman and the members are Mr. H. R. Aldridge, Mrs. A. D. Sanderson Furniss, both of whom are members of the Housing Advisory Committee. Dr. Addison has added to the membership Mr. R. R. Robbins and Mr. E. F. C. Mosse and a representative of Labour will be appointed. Both these committees will meet at an early date.

ELECTROLYTIC DETERMINATION OF IRON OXIDE AND ALUMINA IN PORTLAND CEMENT.

One gramme of the cement is treated in the usual way for the separation of silica. The filtrate is treated with ammonia to precipitate ferric hydroxide. This is dissolved, reprecipitated, washed, dissolved in dilute sulphuric acid, and the solution added to 5 grammes of ammonium oxalate dissolved in water. The total volume should be about 150 c.c. This solution is electrolysed, using a gauze cathode and a spiral anode. With 1.5 to 2.5 amperes and 4 to 5 volts, the iron is deposited in about 90 minutes. After the current has been interrupted the cathode is washed with dilute sodium hydroxide solution; then with water, dried and weighed.

The solution and washings may be used for the determination of the aluminium; the conditions are the same as for the deposition of the iron, except that platinum foil is used as the cathode.

The aluminium separates out as hydroxide which is collected on a filter and washed. The filtrate is boiled, with the addition of ammonium chloride, until excess of ammonia has been expelled, when a further small quantity of aluminium hydroxide is obtained, which is added to the first quantity.—*Chemiker-Zeitung*, per the *Technical Review*.

Messrs. Wm. Woodward and Sons, architects, 13, Southampton Street, Strand, have removed to 15, Great James Street, Bedford Row, W.C.1.

The Metropolitan Water Board last Friday, after brief discussion, rejected a scheme for the reorganisation of the Board's administrative system, under which the chairman was to be recognised as the representative head responsible for the exercise of general supervision and control, receiving a salary of not less than £1,000 a year, in place of £500 as at present.

OUT-OF-WORK PAY FOR EX-SERVICE MEN DURING THE STRIKE.

PAID THROUGH EMPLOYERS.

The Ministry of Labour announces that the Government have resolved to continue the payment of out-of-work donation, but with certain modifications:—

1. Ex-service men, whether their claim to out-of-work donation became operative before or after the commencement of the railway strike, will be paid the full amount of donation to which they are entitled, in accordance with the existing scheme.

2. All persons actually claiming out-of-work donation immediately before the commencement of the railway strike, and who are continuously unemployed during the strike, will be paid out-of-work donation at the ordinary rates and according to the ordinary rules.

3. All civilians thrown out of employment after the commencement of the railway strike—provided that they themselves are not on strike, nor identified with the strikers, either through working in the same establishments or being members of any organisations giving active support to the strike—will receive out-of-work donation at the following rates:—

	A week.	s.	d.
For married men and for widowers with a child or children under fifteen	25	0	
For single men or widowers with no children under fifteen	15	0	
For women	12	0	
For boys between fifteen and eighteen	7	6	
For girls between fifteen and eighteen	6	0	

Any donation paid at these special rates during the continuation of the strike will be in place of the donation payable under the ordinary scheme.

4. It is one of the conditions of receipt of out-of-work donation that there is no suitable employment available. During the continuance of the present strike, suitable employment in the cases of people fit to undertake it will be held to cover the giving of assistance other than on the railways in the distribution of food and fuel, and rendering necessary services in connection with the administration of public health.

APPEAL TO EMPLOYERS.

It is obviously impracticable for payment of donation to be made at the Employment Exchanges to all workpeople unemployed. This difficulty can be overcome if employers generally will undertake to pay the donation on behalf of the Government to workpeople entitled to it who become unemployed after the commencement of the railway strike, and the Government appeal with confidence for the assistance of employers in this respect. All employers whose works or establishments are wholly or partly stopped owing to the railway strike are therefore urged to communicate at once with the nearest Employment Exchange in order to make the necessary arrangements, and also to inform their workpeople that it is not necessary for them to make separate application: employers should not, of course, make any payment of donation without first completing the arrangements with the Employment Exchange.

Workpeople on donation immediately before the commencement of the railway strike will continue to attend at the Employment Exchange.

Mr. A. H. Johnson, of Winchester, has been appointed architect and surveyor under the Romsey Town Council's housing scheme.

Kingston licensing justices on Monday passed plans for structural alterations to the Three Tuns Hotel, London Road, which the proprietors propose to refashion on model lines, in order to make a speciality of food catering.

The Bishop of Thetford held a war memorial service last Thursday week at East Winch Church, Norfolk, in memory of East Winch men who fought and fell in the war. The Bishop unveiled and dedicated a window placed in the church by Sir William Lancaster to the memory of his son, who fell in the battle of Arras in 1917. The tablet recording the names of the other men was not ready in time for the service.

Building Intelligence.

WREXHAM.—The memorial chapel erected in the Wrexham Parish Church to the memory of the 370 men of the borough who fell in the war was, on September 24, unveiled. Sir Thomas Jackson, Bart., R.A., designed the chapel, which has a pavement of black and white marble. The reredos is in alabaster, with the figure of our Lord in the centre and the twelve Apostles in niches—six on either side. The monument covering the north wall of the chapel is in Portland stone, with five bronze panels, on which are inscribed the names of the men who fell, together with their rank and regiment. The monument is surmounted by a statue of St. George and the Dragon, and at the base is the recumbent stone effigy, 7 ft. in length, and crumbling with age, of a British warrior of the thirteenth century. The rail to the table and the reredos is the gift of the children of Wrexham, and it was specially designed by Sir Thomas Jackson to correspond with the old ironwork given two hundred years ago by Elihu Yale, and of which the chancel screen is made. It was designed after the same pattern in wrought iron. The altar table was also designed by Sir Thomas. The whole of the work was executed by Messrs. Farmer and Brindley, of Westminster, at a cost of £1,545.

THE SKYSCRAPER GARAGE.

The problem of parking motor-cars is growing increasingly serious. The more densely populated the city the more business men there are who would like to use their cars going to and from places of business, and the less space there is to accommodate their cars. Parking areas are growing smaller and fewer, while the number of cars is steadily increasing. The laws regulating the parking of cars are growing constantly more stringent. In addition to this, motor-car thieves are becoming more and more bold, so that it seems as if something of a radical nature must be done soon to solve the problem of caring for cars.

A very novel plan has been proposed by Mr. Eugene G. Higgins, of Jackson, Mich. He proposes to provide a parking space right in the midst of a business section, and, because of the limitation of space, to build a garage in the form of a tower. The ascending driveway has a 3 per cent. grade, and the descending driveway a 7 per cent. grade. There are elevators for passengers, and from each stall there is a walk which gives access to the elevators after the car has been placed in the stall without requiring the driver to walk out on the main driveway. Each stall may be locked so that the driver of the car, after he runs his machine into the stall, may feel sure that it will not in any way be molested during his absence. On the ground floor there is room for offices and showrooms for automobile supplies, in addition to which there are waiting-rooms and a repair shop.

While we may not properly speak of stories in a building with a continuous spiral, nevertheless it will be understood that by this term we mean each complete circle of the spiral. As designed, the building would accommodate forty cars per story, and eighteen stories would accommodate 720 cars. The diameter of the building would be 160 ft., and the stalls would have an average width of 10 ft., while the driveway would be 8 ft. wide.

Whether so ambitious a project will ever be constructed, the *Scientific American* confesses, is a question. However, it would certainly provide ideal parking facilities for motor-cars in busy cities, and a skyscraper garage would be in keeping with the tall buildings of our large cities.

Scafell Pike, the highest mountain summit in England, has been presented to the nation as a war memorial, by Lord Leconfield, the lord of the manor, and the gift is to be placed under the custody of the National Trust, subject to any common rights that exist.

ARCHITECTS' FEES FOR HOUSING SCHEMES.

The following are sanctioned by the Royal Institute of British Architects, and approved by the Ministry of Health, the Board of Agriculture and Fisheries, and the Scottish Board of Health. Special arrangements may be required in exceptional circumstances, but for ordinary cases the following scales of fees and arrangements shall apply:—

I.—ARCHITECTS.

(A) *Preparation of Lay-out Plans.*—For the preparation of a plan or scheme from existing maps, showing roads, builders' plots, and buildings in block, including—

- (1) Conferences with local authorities and their officials;
- (2) Surveying, levelling, and preparation of contour plan;
- (3) Lay-out plan (where necessary) to 1/2,500th scale;
- (4) Detailed lay-out plan or plans to 1/500th scale;

but exclusive of the preparation of detailed plans of buildings: For the first 25 houses, £1 per house; for the next 75 houses, 10s. per house; for the remainder, 7s. 6d. per house. In cases where the number of houses has not been determined, the fee shall be based on an average of ten houses per acre. Where a fully-contoured plan of the site is provided by the local authority, a deduction shall be made in respect thereof, from the fees above stated, of £1 per acre.

(B) *Roads and Sewers.*—For preparing working drawings, specifications, and quantities for roads and sewers in accordance with the lay-out plans prepared under Section A, advising on the same and on the preparation of contract, furnishing to the contractor one copy of the drawings, specifications, and quantities, general supervision; issuing certificates, measuring up, passing and certifying the accounts: For the first 25 houses, £2 per house; for the next 75 houses, £1 per house; for the remainder, 15s. per house.

(C) *Cottages and Flats.*—For taking instructions, preparing sketch design, making approximate estimate of cost, preparing drawings and specifications, obtaining tenders, advising on tenders and on preparation of contract, selecting and instructing consultants, furnishing to the contractor one copy of the drawings and specifications, and such other details as are necessary for the proper carrying out of the works, general supervision, issuing certificates for payment, and passing and certifying accounts: 5 per cent. upon the first 12 cottages or flats, 2½ per cent. upon the next 60 cottages or flats, and 1½ per cent. upon the remainder. This scale covers the ordinary variations in type of house and such modifications as are made to avoid monotony in appearance. Save in exceptional circumstances, it is not desirable that any one architect or firm of architects should be entrusted with more than 250 houses in any one scheme, but the fees payable in respect of each 250 houses shall be calculated as above, whether or no several architects be employed thereon.

II.—QUANTITY SURVEYORS.

For the preparation of bills of quantities: 2 per cent. upon the first 12 cottages or flats, 1 per cent. upon the next 60 cottages or flats, 3.5 per cent. upon the next 178 cottages or flats, and ½ per cent. upon the remainder. This scale covers the ordinary variations in type of house, and such modifications as are made to avoid monotony of design. For measuring variations on the contract and adjusting the final accounts, the remuneration shall be at the rate of 1½ per cent. on additions, and 1 per cent. on omissions brought into account. The above scale is exclusive of all disbursements in respect of printing, lithography, and other out-of-pocket expenses.

The above scales of fees are intended to include all necessary duties of an architect and surveyor incidental to the carrying out of the work, including such duties as are involved in complying with the requirements of the Ministry of Health.

Architects' fees for housing are included in, and subject to the conditions of, the "Scale of Professional Charges" issued by the R.I.B.A.

RUSKIN CENTENARY EXHIBITION.

The centenary exhibition of drawings and objects of interest in connection with the life and work of John Ruskin was opened on Wednesday in the galleries of the Royal Academy, and will remain open until November 12. In the absence of Lord Bryce, Mr. Alexander Wedderburn presided.

Sir Aston Webb, President of the Royal Academy, congratulated the society upon the absorbingly interesting exhibition, and thought that when it became known it would in many ways be a revelation to those who knew Ruskin only through his writing and not through his graphic pencil. Ruskin during his life played two parts. Up to 40 he was the evangel of Art, and his second phase was that of evangel of political economy. As to which was the more important, it was not for him to say; Ruskin himself seemed inclined to the second stage.

There would be differences of opinion upon what he said, but there could be no doubt of the sincerity and eloquence with which he preached his gospel of art. His sincerity would be strikingly impressed by the drawings and sketches; and his lectures, the result of travel, study, and thoughtful preparation. He popularised art, and turned the attention of his generation to art in matters with which art had never before been associated.

Arrangements have been made for the delivery of lectures, illustrative of Ruskin's life, work, and influence, in the afternoons of Mondays and Wednesdays during the exhibition. The Dean of St. Paul's, Mr. Masefield, Mr. W. G. Collingwood, Miss Mary Morris, and others have promised lectures.

STATUES, MEMORIALS, etc.

DOVER.—The Dover Patrol Memorial Committee have decided to allocate £12,000 each for the obelisks to be erected on the cliffs to the east of Dover and at Cape Blanc Nez, France, and £6,000 for the monument to be erected in America. As the subscriptions amounted to something over forty-five thousand pounds, this will leave about £15,000 available for the erection and furnishing of the Hostel for Sailors at Dover, which is to form the other section of the memorial. A sub-committee is to report on possible sites for the Hostel between Dover Market Square and the Sea Front. Formal application is being made to the Admiralty and the French authorities for the conveyance of the memorial sites to the Committee.

KETTINS WAR MEMORIAL.—The war memorial for Kettins Parish is to take the form of a rock garden, to be constructed in the Public School garden rockery, from designs by Sir Robert Lorimer, Edinburgh. The central feature will consist of a monument of red granite, on a base of hammered, dressed rubble, built on a level terrace, and bounded by a circular parapet wall. On one side will be a polished panel with the names of the fallen, while pockets for rock plants will be provided in the base of the monument and in the retaining wall. Encircling the central terrace there will be another on a lower level, with seats, and around this second terrace there will be a circular retaining wall to support the side rockeries. The substantial stone pillars on each side of the entrance gate will be surmounted by rough-hewn stone balls. In the background, forming an entrance to the school garden proper, a stone archway will complete the scheme, appropriate in its simplicity and imposing in its general effect. The cost is approximately £390. A mural tablet with the names of the fallen is also to be erected in the parish church at a cost of £80.

Our Office Table.

A pamphlet has been issued by the Ministry, entitled "Housing: the Powers and Duties of Local Authorities," with the object of promoting a wider general knowledge of what it is in the power of local authorities to do in regard to the improvement of housing conditions in this country. It is particularly hoped that the pamphlet will be useful to members of local authorities who are not familiar with the complex provisions of the Housing Acts. A chapter is included indicating what may be done by private persons towards helping to solve the housing problem, and an appendix shows how and to whom complaints may be made by them of unsatisfactory housing conditions. The price of the pamphlet is twopence, and it can be had direct, or through any bookseller or the Government Stationery Offices in London, Manchester, Cardiff, Edinburgh, or Dublin.

At a meeting of the Ayr District Committee of the Ayrshire County Council last week, Mr. J. A. Clarke, of Annbank, presiding, Mr. J. B. Fergusson, Ayr, chairman of the housing committee, said that in his humble opinion the whole housing scheme of the Government was absolutely rotten, and would be disastrous. The committee, from the first, had been anxious that there should be no delay, but now, for the first time, the Local Government Board sprang upon them the information that approval of the sites would not be finally made until a mining engineer had reported upon them. Since June they had pressed for inspection of the sites by the engineer to avoid unnecessary delay, but no inspection had taken place. Eleven weeks had been lost solely through this being sprung upon them. In the meantime, roadmen's houses undertaken by themselves (the committee) were almost completed, simply because they had not been subject to Government dilly-dally. Mr. R. Brechany, Dalmellington, joined in the protest, stating that the public should know upon whom the blame lay for the delay.

The state attorney general of Kansas has filed suits against seven cement companies of that state. The petition charges that the cement companies bound themselves not to sell, manufacture, dispose of or transport cement below a common standard figure which is termed excessive; that the companies have entered into a secret agreement to sell cement in Kansas at a uniform price, and add to said price and charge to the purchaser an amount equal to the railroad freight charges, not from the point of production to the point of delivery, but from the city of Iola, Kan., to the place of delivery, and that the companies agreed unlawfully to divide the territory of Kansas among themselves, to the end that in certain portions of the state certain companies have the exclusive right to fix the price of cement.

The strike of operatives in connection with the Government house-building scheme on Wragby Road, Lincoln, still continues, and there seems no immediate prospect of a settlement, although the trouble has been in progress about six months. Owing to the war the corporation's building scheme was postponed, but with the influx of munition workers the acuteness of house shortage in the city became more marked than ever. At the instigation of the heads of the large local firms, and also by representations of the city council, the Minister of Munitions took the matter in hand about eighteen months ago, and started to build 200 houses, an intimation being given that three or four hundred more dwellings would be erected when these were completed. Progress was exceedingly slow, and it collapsed altogether about March last, when a dispute occurred about wages and hours, and the men ceased work. Not one dwelling has yet a roof on it. Originally it was estimated that each house, with drainage, would cost about £750, but that estimate has since increased to £1,100. The Ministry of Munitions have suggested to the council that an economic rent should be charged on 70 per cent. of such cost, but this would amount to £1 8s. 9½d. per week, which would, of course,

be an absurd sum for a working man to pay. The corporation have, therefore, expressed the opinion that the rental should not be more than 15s. 6d. per week, inclusive of rates. The original arrangement was that the Government should hold the property for seven years, and then hand it over to the corporation at 50 per cent. less than the cost of production, but there appears to be signs that the Government are heartily sick of the job, as, needless to say, the city authorities are. There is also threatened trouble with regard to the Lincoln Swanpool garden city scheme. If the men engaged do come out on strike, as has been suggested, it is very probable that the promoters, who have moved solely in the interest of the working class, will throw the whole scheme over.

Following a conference of delegates from the branches of the Middle Class Union, the Management Committee have passed a resolution on the reckless expenditure by the House of Commons and the consequent taxation, which tends to discourage enterprise and thrift. The resolution, which is being sent to members of Parliament and to all branches of the Union, reads: "The members of the Middle Classes Union view with alarm the reckless expenditure of public money by the House of Commons and the consequent taxation, which tends to discourage enterprise and thrift; and they will feel it their duty to refuse to subscribe to any public loans and to take such other action as may be deemed expedient unless the House puts a stop to expenditure which unfairly penalises one class at the expense of another class."

The construction of the new tunnel at the Zoological Gardens, Regent's Park, which was suspended in 1914, has now been resumed, and it is hoped to finish it during the winter. The south entrance to the tunnel will join the main pathway leading to the south gate where the path from the main gate to the Mappin Terraces crosses it. It was part of the scheme that the point of crossing should be marked by a clock tower, and it has been decided to set up instead of this a memorial to the members of the staff killed in the war, and a reproduction of one of the medieval French "Lanternes des Morts" is to form the basis of a suitable design. A wood and canvas model of dimensions appropriate to the site was prepared from photographs of the Lanterne at La Souveraine Creuse, France, and was placed on the selected site. The actual memorial is to be built of Portland stone, and will be erected as soon as the tunnel is completed. It will consist of a plain octagonal tower about 13ft. high, standing on a pediment of two octagonal steps, the upper of which will carry the names to be commemorated. The angles of the tower are marked by plain mouldings, semi-circular in section, and the lights are close to the summit. The tower is capped by an octagonal extinguisher-shaped cap, with projecting eaves, surmounted by a small stone cross.

At the recent meeting of the British Association the Rev. H. J. Dukinfield Astley read a paper on "Primitive Art as a Means of Practical Magic." Primitive art, he said, varied from the highest perfection, as in the cave-drawings of Spain and the Dordogne Valley, in France, to examples that appeared like the first efforts of children. Between the earliest and latest stages known to us there must have been long experience and practice. But the work in question was not done at any period, he declared, for a purely artistic purpose or to gratify the aesthetic sense. It was all based on "sympathetic magic."

Owing to the alleged high figures in the tenders received from private contractors, Walsall Town Council last Monday decided to carry out their housing scheme by direct labour under the supervision of the borough surveyor, who was of opinion that, with a guarantee from the Ministry of Health as to the supply of materials and labour, a considerable saving could be effected. Alderman Cope said it was time "to get a move on." The pros and cons had been discussed for two years, and it was useless wasting more time considering which system was the best to adopt. As chairman of the Tramways

"That's what is called profiteering," remarked the presiding magistrate at the Rochdale borough police court last Friday, when a claimant for damages said that one plumber had undertaken to fix a new window for 10s. 6d., whereas another member of the trade offered to do the job for 7s. 6d.

"I am afraid," said a prominent member of the Liverpool Housing Committee last week, "that most of the taxpayers have not yet realised what an expensive business this national housing is going to be. The brick houses are going to cost £1 a week over and above what they will produce in rent. Liverpool is going to provide, say, 14,000 to 15,000 houses, and the actual loss on them will amount to between £10,000 and £15,000 a week."

Committee, he recommended public works being carried out by direct labour. Alderman Ingram said it was never expected that the borough surveyor would have to undertake work of this kind, and it would take him off his other duties for the next two years. The Mayor said the tenders sent in were extraordinarily high. While the discussion was proceeding the closure was moved and carried, and the recommendation was agreed to. It was then decided that the erection of twelve houses at Blakenall and twelve at Ryecroft be proceeded with immediately.

According to the tests made by a French engineer, M. Rohland, on the expansion and contraction of cement and concrete, it is found that when concrete plain or reinforced is exposed to the air, it contracts, but on the contrary it expands if immersed in water or even if kept in a very damp place. The contraction can be diminished by adding a larger amount of sand or by the use of hygroscopic salts. When powdered cement is mixed up in the first place with water, the colloidal portions separate out and absorb water, thus producing an increase in volume accompanied by a lowering of temperature. When the cement begins to set, a diminution of volume and rise of temperature ensue. These last two effects are due to the sudden coagulation of the colloidal elements, in which case water separates from the mass. In this way the process has two distinct phases: first, absorption of water with increase in volume and diminution of temperature; and second, separation of water with decrease of volume and rise in temperature. It is found that the increase in volume during the first period is greater than the decrease which takes place in the second period.

The world's largest ore dock is located at Duluth. It is 2,438 ft. long or big enough, as the *Railway Age* puts it, "to dock two of the world's largest ships, the 'Bismark' and the 'Leviathan,' end for end on either side. In constructing this dock over a million feet of piling was driven. The space surrounding the dock was enclosed in a cofferdam constructed of steel sheet piling. Then the space was unwatered and partially filled with sand. Finally a huge concrete slab was poured in which the ends of the piles were embedded to a depth of nine inches. The superstructure of the dock has 234 ore pockets with a capacity of 6,540 cubic feet each. In other words, each pocket will hold the contents of eight standard 50-ton ore cars, so that the capacity of dock expressed in cars is 3,072 and in tons 153,600. Over 29,600 tons of steel were used in the construction of the dock, which would require about 60,000 tons of ore, or less than half the capacity of the dock, and it would take less than half an hour to load this quantity of ore into boats. The new dock was opened on May 1 of this year.

The new aqueduct of Winnipeg, Manitoba, passes under the Red River in a tunnel 1,100 ft. long. The tunnel is a 10 by 10-ft. bore cut through solid limestone, and within this is the 60-in. cast-iron pipe of the aqueduct. The rock is badly seamed and has many pockets. The contract called for completely filling in the space around the pipe with concrete, and further stipulated that compressed air must not be used in placing the concrete. Accordingly the following method was used:—Prior to placing the pipe, a concrete floor was laid and carefully graded for the pipe to rest upon. After the pipe had been laid, bulkheads were erected dividing the tunnel into sections, which were successively filled to within two feet of the roof. Then concrete dams were built to the roof, sealing off the sections, and through holes previously bored from the surface through the roof the cavities in each compartment were completely filled. The compartments directly under the river were filled through pipes extending up to a temporary trestle.

The *Statist* directs attention to the failure of the Irish Housing Act to meet Irish needs or conditions. It says that it will not be very largely availed of by local authorities. The financial provisions, as contrasted with those contained in the English Bill, are, it states, subject to severe criticism. The difference in character between the various standard mea-

sures makes it probable that a partial solution of the problem will be realised much earlier in Great Britain. Nevertheless, the *Statist* anticipates that there will be much building in Ireland, and, in preparation for the boom in the trade, discusses the building materials that are in Ireland. There are at present forty-three brick-making centres in Ireland. So far, however, not much is done otherwise in preparation of the coming demand, and our contemporary calls attention to the importance of the exhibit of native building materials in the National Museum in Dublin. Architects should study constantly the specimens shown there, which are added to from time to time as new sources are worked. The fact that the English housing problem is so much more advanced than the Irish housing problem is a serious matter for the Irish local authorities, for as the building material is drawn upon it will become dearer and dearer. The delays imposed by the neglect and obstruction of the Local Government Board and the insufficient provisions in the Irish Act will therefore add considerably to the cost of the Irish schemes, and thus increase the burden on the rates.

PROFESSIONAL AND TRADE SOCIETIES.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—At the last Council meeting of the above body the President (Mr. W. Kaye Parry, F.R.I.B.A.) took the chair, and there were present Messrs. J. H. Webb, A. Murray, F. Batchelor, A. G. C. Millar, R. Caulfield Orpen, F. G. Hicks, G. P. Sheridan, and H. Allberry, honorary secretary.—Letters were read from the Town Clerk, Ballymena, in connection with the framing of the conditions of competition for a new Town Hall: from the Town Clerk, Athy, requesting the Council to recommend an architect for the Athy housing scheme; and from the Local Government Board stating that the Board, in accordance with arrangements made, had decided to set up a committee to form a panel of architects in connection with housing schemes, and inviting the Council to nominate representatives thereon. The Council nominated Messrs. F. Batchelor, A. E. Murray, R. Caulfield Orpen, and G. P. Sheridan, from whom two will be selected to act. Correspondence was also dealt with referring to difficulties which have arisen between members of the Institute and the Appointments' Department in relation to the pupillage of ex-service men desiring to train as architects, and the honorary secretary was directed to call the attention of the department to the unsatisfactory condition of affairs. A circular from the Linavady and District War Memorial Committee inviting competitive designs for a War Memorial Hall was considered. It was decided to direct the committee's attention to the omission of the appointment of a competent assessor.

We regret to announce the death on Wednesday of Professor Francis John Haverfield, Camden Professor of Ancient History at Oxford, and an archaeologist who was the leading authority on Roman Britain.

Hendon District Council has provisionally accepted a tender of £29,838 for the erection of 37 workmen's dwellings. It is calculated that on a basis of rents from 25s. to 19s. 3d. a week, the annual deficit will be £1,044.

The Cheadle District Council has approved the lay-out schemes submitted by Messrs. Longdon, Watts and Twemlow, architects, on the following sites: Cheddleton, Weston Coyney, Blyth Marsh, Dilhorne, Tean, Cheadle, Frog-hall Caudon, and Alton.

An incomplete survey of the devastated regions in northern and eastern France shows that 1,330 churches are in ruins; 1,337 damaged, but repairable; 2,949 sacristies destroyed and more than 2,500 priests deprived of places of worship, according to French reports. The total damage is at least \$100,000,000.

Chapel-en-le-Frith District Council were staggered on Monday when they received tenders for building houses under the housing scheme. For parloured houses a Sheffield firm tendered £1,005 per house and £836 per house without parlour. A Glossop firm's tender was £1,377 per house and £1,002 per house respectively, without land or drain. The question was left over.

CHIPS.

Mr. H. R. Newman has been appointed by the Cupar Town Council architect under the housing scheme. It is proposed to erect thirty houses.

The Chard Town Council has appointed Mr. E. W. Hearn, its surveyor, as architect to carry through the work in connection with the building of fifty-two houses.

Tottenham Council is seeking authority to raise £30,000 for housing sites. Plans are before the council from a local builder, who proposes to put up 127 houses.

The Cambridge Town Council has agreed to raise a loan of £11,000 to meet the expense of the conversion of the First Eastern Hospital into temporary housing accommodation.

The Finedon Urban District Council has approved plans for the first twenty houses to be erected on the Irlidborough Road. Mr. R. J. Williams, of Kettering, is the architect.

The Chipping Norton Town Council is considering plans submitted by Mr. Daft, its architect, for the erection of houses. The scheme will involve an expenditure of £25,000.

Mr. John W. White, C.B.E., a prominent builder and contractor, died in Sunderland on September 25. During the war he served, at the request of the Government, on several important committees.

A cross erected outside Dulwich College Chapel in memory of old boys of Dulwich College who fell in the war was unveiled last Sunday by Lieutenant-Colonel W. D. Gibbon, D.S.O., M.C., an Old Alumnus.

A meeting of property owners was held at Winchester House on Tuesday, when several matters of interest were discussed. Mr. Edwin Evans, J.P., the president of the Property Owners' Protection Association, presided.

Newcastle Corporation had asked for tenders for the erection of baths, which, before the war, cost £23,000. Replies have now been received mentioning figures up to £38,000. The building has been postponed.

Mr. Philip Winn, of 56, Harborne Road, Edgbaston, Birmingham (of Messrs. Charles Winn and Co., Limited, brassfounders, engineers, and sanitary appliance manufacturers), has left net personalty £39,428, gross £45,009.

Great regret has been caused throughout the Milnrow district by the death of Councillor Berry, master painter and decorator, of 36, Dale Street, Milnrow, which occurred suddenly early on September 18. His age was fifty-eight years.

The closing date for sending designs in the "Daily Mail" Ideal (Labour Saving) Homes Architects' Competition, which was to have been October 4th, is indefinitely postponed. It will be announced in the "Daily Mail" when conditions are normal again.

In Ruislip Church appears a list suitably framed and headed "Our Wants." These include a vestry, chancel screen, new altar, reredos and altar rails, banner of St. Martin (the patron saint), repairs to buttresses and windows, and standards for sanctuary.

Mr. Arthur Croxton is arranging, at the London Coliseum, an exhibition of relics, old prints, engravings, etc., dealing with the theatrical, musical, and social associations of theatreland in London and the country. He will be glad to hear from anyone interested.

The Crowland Abbey Church Council have decided to place a bronze tablet in the belfry, recording the names, units and honours of all the local men who fell during the war. Mr. Wilfred Bond, of Grantham, the Abbey architect, is preparing a design, and the estimated cost of same.

Books for Sale. Prices include postage or carriage. "The Coming Trade War," by Thomas Farrow and W. W. Crotch, 2s. "Can We Set the World on Order?" by G. E. Enock, 2s. 6d. "Lockwood's Price Book for 1917," by G. E. Enock, 2s. 6d. "A Register of Over Sea Buyers all over the World Wanting to do Business with British Makers and Merchants," 10s. "The Development of Birmingham," by William Haywood, F.R.I.B.A., first edition, 7s. 6d. "The Presto" Shift of Hours War Calendar Card," 1s. "The Production and Treatment of Vegetable Oils," by F. W. Chalmers, 15s. "Italian Sea Power," by Archibald Hurd, 1s. "The Aircraft Identification Book," by R. B. Matthews and G. T. Clarkson, 2s. 6d. "Aeroplane Construction," by Sydney Gamble, 5s. "The Elements of Telephone," by Arthur Crouch, 1s. 6d. "T.N.T. and All About It," by G. Carlton Smith, B.S., 5s. "Asphalts and Allied Substances," 606 pp., 208 illus., £1. "The Design of Factory and Industrial Buildings," by G. W. Fowler, 5s. "Inhabited House Duty and the Laws Thereon," by W. E. Snelling, 10s. "Jane's Pocket Aeronautical Dictionary," 1s. 6d. "Zoons and Spuns," by R. Rufford, 2s. 6d. "The Origin of the Forms of the Earth and Planets," in French, by M. Emile Belot, 10s. "Causes and Consequences: A Book for Teachers," by Geo. Gordon Sampson, 2s. "Metrology and the Industries," 1s. "The Financial Times Guide to the Income-tax for 1919," 1s. "Automobile Batteries," by Harold H. U. Cross, 3s. "Electric Spark Ignition," by J. D. Moran, 6s. "Electricity in the Service of Man," by R. Mullineux-Walmsley, Vol. II, 7s. "A Guide to the Study of the Ionic Valve," by W. D. Owen, 2s. "Modern Engineering Practice," by Herbert Thompson, A.M.I.M.E., 6s. "Fuel Economy," by W. H. Booth, 2s. Strand Newspaper Co., 1, Abchurch Lane, Strand, London, W.C.2

THE BUILDING NEWS

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OUR ILLUSTRATIONS.

The Northern Portals, Chartres Cathedral, France, from a water-colour by Mr. J. F. Barry Pittar,
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Strand, W.C.2

A.R.B.A., from the City of London Art Gallery, Guildhall, E.C., E.B.A. Exhibition, 1919.
The Leys School, Cambridge, proposed additions, including the War Memorial and Hall. Elevation and plan, Sir Aston Webb, P.R.A., K.C.V.D., C.B., and Mr. Maurice E. Webb, M.A., F.F.R.I.B.A., Architects.
"Ideal Workers' Homes." Concrete cottages, thatched or tiled (Southern Counties). Specially "commended" designs. Mr. Maurice S. R. Adams, A.R.I.B.A., Architect. Plans and views.

Currente Calamo.

We incline to the belief that the "satisfaction" expressed by both combatants in the railway struggle is most really experienced by the general public, that they, too, can combine against strikes and struck against; and that the discovery is due to the gallant volunteers of every class and calling who so manfully stood in the breach last week. They with splendid moral and physical courage kept us from starvation and saved us from the prostration of all business; and, we trust, have taught us that no blundering officialism or any single section of workers can hold up a community that is determined to "carry on." They have, moreover, we hope, taught us another lesson, and that is that every citizen is worth double his salt who can do something outside his everyday's work. That knowledge, happily, is already shared by many more thousands than most of us thought. It has been found that thousands of people can not only drive motor-cars, but can keep them in running order. It was not generally realised that the driving of a petrol-driven car is a more complicated business, demanding better technical knowledge than the driving of a steam-engine, in which the really difficult task is the stoking. Knowledge of the road is the highest equipment of the engine-driver, enabling him to keep up the right pace on all gradients and to observe all the signals. The actual running of the engine is the simplest part of his duties. "Amateurs" of every description will, we hope, increase and multiply by the million. The Jew found long ago that the teaching of every boy some trade was the best possible provision against penury. The British parent and the schoolmaster should encourage by every possible means the acquirement by his sons of every class of some craft, if only as a hobby which may stand the community in good stead in the day of individual or national need. One last congratulation to the millions who last week learned the use of their legs. Let them, at the least, utilise that knowledge by a careful study of time-tables, and find out how they can save at least half their railway or tram or bus fares, and walk the rest, to the benefit of their health and pockets. It will bring down

fares sooner than anything, if it does nothing else.

In response to a suggestion from the Ministry of Labour that members of the Society of Architects should take suitable ex-Service candidates into their offices as non-premium pupils, the Council point out that the private pupilage system is being rapidly superseded by the architectural school, which offers wider educational facilities, especially if leading to further training on Beaux Arts lines. The society has long advocated the establishment in this country of a Ministry of Fine Arts for the support, *inter alia*, of a national school of architecture. This proposal has recently been supported by prominent public men and well-known architects with a view to an application being made for the support of the Board of Education. A Government grant in aid of ex-Service men at recognised architectural schools might well be the first step in this direction. It should, however, be made clear to potential candidates that years of arduous and expensive training are an essential preliminary to entering the architectural profession, and while there are reasonable prospects of success for qualified architects, there is no room for the unskilled.

Mr. W. E. Riley, F.R.I.B.A., will, on the 12th inst., relinquish the position of architect to the London County Council and superintending architect of metropolitan buildings, which he has held since 1899, and the Council, on the motion of Mr. J. W. Gilbert, seconded by Dr. Scott Lidgett, passed a resolution last Tuesday recording appreciation of his architectural ability, which has found expression in permanent form throughout the county, and its recognition of the strenuous work performed and the high sense of public duty displayed by him during twenty years in the service of the Council. Among the onerous duties which devolved upon Mr. Riley during his term of office, the General Purposes Committee reported, have been the securing of designs for, and the arrangements in connection with, the erection of the new County Hall, the erection of buildings, including the Greenwich generating station, the central car repair depot, the new Sessions House at Newington, the Central School of Arts and Crafts, fire

stations, working-class dwellings, and technical institutes. Moreover, after the Council had taken over the education service, the whole of the architectural work connected with that service was transferred to Mr. Riley. He was responsible for the architectural treatment of the superstructure of Vauxhall Bridge, and was associated with the late Mr. Norman Shaw, R.A., in advising on the designs submitted for the elevations of buildings in Aldwych.

The Ministry of Health have caused to be prepared a model form of contract for the general guidance of local authorities and public utility societies in connection with contracts for State-aided Housing Schemes under the Housing Acts. Subject to any modifications to suit local conditions, it is intended that these forms should, wherever possible, be adopted. The forms comprise a model form of tender for use where the contractor tenders for and undertakes to erect the whole of the houses required; an alternative form of tender for use where a portion only of the total number of houses required is tendered for, and a form of contract comprising Articles of Agreement, Conditions of Contract, and a "Schedule of Prices." The procedure provides for tenders being submitted and the contract entered into for a lump sum, subject to additions or deductions consequent on variation orders or adjustment of provisional amounts or "prime cost" items. Owing to the present uncertainty as regards costs of labour and materials, it has been deemed desirable to include in the conditions of contract provisions for adjustment of the contract price in the event of changes in rates of labour or costs of materials during the currency of the contract. The Ministry consider that such provisions should be regarded as a purely temporary measure, and in their opinion it is very desirable that the system of firm contracts formerly obtaining in the building trade should be reverted to at the earliest possible date. With this object in view, the provisions as to adjustments referred to are to be regarded as transitory provisions, and it is hoped that there may be a gradually increasing number of cases in which a contract can be let at a firm price without the insertion of these provisions. Where this clause as to adjustment is

included, it is necessary that a schedule of prices showing prices of material and rates of labour ruling at the date of the contract and on which the tender is based should be filled in. This document is designated the "Schedule of Prices." It should be issued with the forms of tender and returned duly completed with the tender or at least before the tender is accepted—and if the tender is accepted the schedule should subsequently be attached as a separate document to the contract. Reference may be made to the arrangements with the Director of Building Materials Supply for the supply of building materials in connection with State-aided Housing Schemes. In establishing this branch of the Ministry of Munitions, the Government had two main objects in view—namely, providing employment for men demobilised from the Army and munition works, and stimulating production of building materials in anticipation of the requirements of the housing programme. Both of these objects have been attained, and it is now considered desirable that contractors for housing schemes should, as far as possible, arrange for the supply of materials wholly or in part otherwise than through the Director of Building Materials Supply, so far as this can be done without increasing the cost. It is therefore requested that local authorities and public utility societies, when issuing invitations to tender, will draw particular attention to the provision in the Schedule of Prices (page 21) enabling contractors themselves to arrange for the supply and delivery of materials without recourse to the Director of Building Materials Supply. The form can be obtained for threepence of any of the Government Stationery Offices, through any bookseller.

Two puffed-brick ships are soon to be launched at San Francisco. Bricklayers are not employed in building this peculiar type of boat, because with the mortar used a trowel-wielding labourer is not required. The "puffed brick" used is made, like ordinary brick, of a peculiar clay containing a low percentage of silica. Subjected to an intense heat, the brick puffs up like popcorn. The product looks something similar to coke, and is about as light. Once puffed, the bricks are ground to a dust and mixed with cement. This process, it is claimed, makes for a gain of about 40 per cent. in the lightness of the ship's walls, without losing any of its strength. The ship's forms are built in standardised sections, and are hinged with bolts so they can be forced up and put out of the way when the concrete hardens. After launching, the forms are quickly put back into place, steel reinforcing rods installed, and the pouring of another ship can be begun. According to experts in concrete ship-building, this system makes it possible to turn out a 7,500-ton vessel every three months, and only about 25 per cent. of the lumber in the forms is wasted. The first two ships built of this material at San Francisco, each 7,500-ton oil tanks, are ready to be launched. They resemble

steel ships in their lines, and are said to be a big improvement over the "Faith," the first concrete ship built. They are to be launched broadside to the water, as this method spreads the strain over a larger surface.

The *Sheffield Daily Telegraph*, which offered a prize of twenty pounds in connection with its articles on the housing problem, has awarded it to Mr. G. W. Hilton, architect, Harefield House, Stoke-on-Trent, for his contribution thereto, in our contemporary's issue of May 10 last, entitled "A Concrete House That Was Built by One Man," which is now published by E. and F. N. Spon, Ltd., at 3s., or post free 3s. 2d. The house was designed and erected by Mr. Hilton for his own occupation, and built largely by his own labour. It is a detached two-storied mono-block structure. So far as the appearance of the exterior is concerned, the house, as the author says, "does not look either a vilified cottage or a cottage-ised villa." It is a plain, almost four-square structure, with living-room, drawing-room, kitchen and hall on the ground floor, and four bedrooms on the upper floor. Four sets of forms sufficed; and, timber being unprocureable during the war, Mr. Hilton made them out of old plate-glass cases. The concrete for the walling was made of Portland cement, 1 part; pit sand, 3 parts; half-inch destructor clinker, 8 parts; and, for other purposes, in the proportions of 1, 2, and 4 respectively. Partitions and shelving throughout were all done in concrete. Each separate member of the windows was cast in a box with both sides hinged, and to allow of a casting any length up to 6 feet and 3½ inches square, the rebates for glass or swivelled casements being formed by nailing strips in the box. The drawing-room walls are divided into panels by fibrous plaster ornamentation; the panels are a deep blue colour, procured by washing with liquid cement dyed with ultramarine, the plaster borders left dead white and the remainder of walls and the ceilings cream tinted. The hall is panelled with old brown oak, and the doors are of the same material. Full plans and details of every part are given, and a perspective view of the exterior. No details as to cost are given, but Mr. Hilton claims to have built a house that is water, weather, draught, fire, sound and decay proof, economical in upkeep and fuel consumption, and is convinced that houses of concrete are the houses of the future.

We have read with the greatest delight, and shall preserve with care, the "Peace Souvenir" issued by Messrs. Robert Ingam Clark and Co., Ltd., of West Ham Abbey, and Paris, New York, Buffalo, Chicago, Bracebridge (Ontario), and Sydney (New South Wales), in which the splendid service rendered by the numerous members of the staff during the great war is recorded and the names of those who fell are given. Portraits are also given, together with those of the chairman, Mr.

F. W. F. Clark; Mr. R. F. Clark, who was a member of the Oils and Fats Committee, and who served in the H.Q.C.D. of the Special Constabulary, and was awarded the Order of the Red Triangle with two bars for his service with the Y.M.C.A. canteen; and Capt. R. H. I. Clark, of the Argyll and Sutherland Highlanders, the son of the chairman, who was wounded and gassed, and who sailed last Wednesday on a world tour, including visits to the works of the firm abroad. Some interesting details are included of the valuable assistance rendered to the Departments of Aeronautical Supplies and Aircraft Production, and it is mentioned that the chairman, apart from directing the war policy of the house, gave up his house in Scotland as a Convalescent Home for wounded officers, with Mrs. Clark as Commandant, and was elected by Sir Auckland Geddes to become a member of the Parliamentary Committees on Reconstruction and National Service. With every unit working thus for their country, one can well imagine the convivial delight that permeated the free intercourse between the executive and operative staffs at the smoking concert and dinner given at the works on September 26, the programme and menu of which are as original as they must have been appetising. In these days of many doubtless well-intentioned experiments for the promotion of better feeling between employers and employed we venture to commend to the notice of other firms anxious to promote the *esprit de corps* of all who serve and at the same time to honour their returned heroes, the happy methods of promoting real peace which have during its long history characterised the world's largest varnish industry and its allied houses.

THE INTERNATIONAL SOCIETY OF SCULPTORS, PAINTERS, AND GRAVERS.

More freaks, perhaps, than in the spring; but the exhibition at the Grosvenor Gallery has a satisfactory percentage of quite good work—except, as usual, of the art which gives the Society its first title, and might as well be deleted altogether as far as its value goes. The best of the very few exhibits are those sent by Mr. Ernest Cole, including 70 A, a full-length nude plaster figure of St. John the Baptist, which stands in the large gallery. It is by no means bad, but certainly not suggestive of the traditional description of the hermit-prophet of the wilderness, "clothed with camel's hair, and with a girdle of skin about his loins." The head of the "Rev. Stewart Headlam" (142 A) in marble is too large. What the "Group in Black Wax" is (332) we cannot say. There is a passable "Garden Figure" (142 B), in bronze, by Mr. Musgrave Bradley Dyne, and another of "Major Leonard Brassey, M.P." (142 C), by Clara Sheridan. A small statuette in bronze (333), by Nan Grant, is not without promise. In the corridor are four small, stiffish, but well-modelled figures of a giraffe, an ostrich, an antelope, and a hippopotamus, by K. Stakhowsky (529-31).

Mr. William Strang, the President, sends a good portrait, in oil (38). Mr. Benjamin Nicholson has three interesting things. "The Little Jug and Blue Bowl"

(2) are capital reproductions of two nice bits of pottery. "The First Striped Jug" (267) is equally well done, and so is "Brown Lustre and Cerulean Drapery" (284). Mr. William Nicholson's five contributions include "Honey Harris" (3), a portrait; "The Picnic" (18), "November 11, 1918" (19), "Holy Island" (22), and "The 'Daff' Snow, Harlech" (298). "Tanfield Court, Inner Temple" (4), by Wendela Borrell, is an excellent reproduction of the well-known enclosure, with a full view of the Master's house. The same artist also shows "Delphiniums and Flax" (14), a very satisfactory flower-piece. Mr. A. J. Munnings, A.R.A., is to the fore with no fewer than ten pictures. The best, undoubtedly, is "The Frisian Bull" (5), a massive embodiment of sturdy strength. Of the rest, we like best the "Landscape in Hampshire" (65). Mrs. Laura Knight divides her favours this time between the pugilistic ring and the stage. "The Boxing Contest" (7) is good, except that the unduly massive left shoulder unnecessarily excludes the face. Of the stage pictures, "Behind the Scenes: Good-humoured Ladies" (64) is the most fetching. Mr. W. O. Hutchinson's "Humoresque" (11) is a lady with very large eyes. Mr. Charles Tharp's "Olivia" (12) is good, and so is his "Spring Morning" (325).

Sir John Lavery, A.R.A., has two portraits, one of A. Duff Cooper, Esq., D.S.O. (15), and the other of Mrs. W. F. Burton (69). His "Little Garden" (16) is a delightful one. Lord Aberconway has lent "Almond Blossom" (20), by James McNeil Whistler, the first President of the International Society. It will be new to many and interest all. Mr. Harrison lends a fine portrait of his wife by John S. Sargent, R.A. Mr. Ambrose McEvoy is as fertile as ever with fourteen subjects. No. 1 is a portrait of the President. The others include "Rienso" (33), "Michael McEvoy" (34), "Madame Errazuriz" (40), "The Lady Islington" (49), and others.

Mr. Charles Sims is only once represented, but most interestingly, in (43), "The Old German Front Lane, 1916," showing Arras, the Scarpe River, Blangy Village, and the Douai Road. Mr. Gerald Kelly has two nice portraits, "Doris Lytton" (13) and "The Lady Clementine Waring" (17). His "Seville Pride" (48) and "La Novia del Torero" (82) are also good works, but a little too swarthy. Mr. W. E. Ranken's "The Colonnade, Greenwich" (71) is well done, and his portrait of 'The Countess Poulett' (86), except that the teeth seem too visible. Mr. Vivian Forbes' "The Good Samaritan" (87) will please, and so will "The Beadle" (89), by Mr. Francis Newbery. The interior of "St. Stephen's in the City" (90), by Anna Airy, is fairly well rendered. One of the best things on view is Mrs. Benjamin Guinness's "Portrait of a Boy" (97). The dog in the picture is especially good. "From Greenwich Park" (104), by James Hill, is a well-known bit of the Cockney's erstwhile holiday paradise, with a view of the river in the near distance. "A Carnival" (105), by Harrington Mann, has its merits. "Trafalgar Square: Anzac Day" (174), is perhaps the most interesting of the post-war pictures. Very good indeed of their kind are two companion subjects, "King's Gate, Trinity College, Cambridge" (192), and the "Entrance Gate, St. John's, Cambridge" (197). The quiet restraint and architectural feeling displayed might with advantage be studied by some of our perspective makers. Mr. William Rothenstein sends his own portrait (266). His steel

helmet and sheepskin waistcoat well become him. Mr. S. J. Larmorna Birch has only two exhibits, "August" (70) and "Bowhill, Selkirk" (282). Both would have been missed by his many friends. Mr. Archibald Barnes is to be congratulated on his "Penrose and Julian, sons of Charles Tennyson, Esq." (291).

The total number of exhibits is 560 but there are more than of late which are of little artistic merit.

THE LIVERPOOL ARCHITECTURAL SOCIETY.

Mr. T. Taliesin Rees, the president of the Liverpool Architectural Society, in his inaugural address, last Monday evening, discussed the building difficulties of the time, and advocated a closer alliance and understanding between the architect, the contractor, and the craftsman for the evolution of new and improved methods.

THREE REMEDIAL FACTORS.

Of the great numbers of superior craftsmen who had been taken for the Army, many had given their lives, he said, with the dual consequence of decreased efficiency and diminished output. Owing to the war, moreover, there had been a suspension of all but the most urgently necessary building work, and to overtake the enormous deficit would take at least ten or fifteen years. With the falling output wages had risen, and building had become so excessively dear that when architects were preparing plans they felt doubtful if the work would ever be carried out. How was the Herculean task of making up deficiency and keeping down the cost to be performed? There were three remedial factors which he suggested would do much to improve the position—specialisation, scientific organisation, and increased output.

By securing larger and more uniform output they could stabilise both demand and supply and effect economy in prices of materials. Builders should become assemblers of building rather than makers and builders of every part. Why should not certain firms specialise in doors, casings, and mouldings, and others in windows, panelling, and stairs? Much of the labour spent on costly plumbing could be dispensed with if the manufacture of sanitary apparatus was standardised. With full information as to thickness of walls, position of gullies, and so on, the traps and waste pipes could be delivered cut and fitted in readiness for coupling. He did not anticipate that the trade unions would offer any objection to the systematising of the building industry in this fashion when it was made plain to the operatives that the more quickly work was done, the more work there would be and the more money available from which high wages could be paid.

IMPROVED METHODS NEEDED.

Architecturally, simplicity and good finish must take the place of laboured and ornamental work. Clients must learn, in the architectural sense, to live the simple life. Labour-saving devices must be honestly accepted and efficiently operated. The many housing schemes which were being undertaken offered admirable opportunities for specialisation, and if successful in the houses of the workers their acceptance by the building trade would be assured. In the matter of scientific organisation, the contractors of this country had something to learn. With methods that tended to improve the working conditions and ease the labours of the workmen, and with increased evidence that the interests of the workmen were being studied, he had no doubt that the operatives would respond as they ought to do. In excavations for clearing sites American contractors employed large plough shovels drawn by horses, which did the work in half the time occupied in the usual way. That was an illustration of the improved methods which contractors might adopt. To discuss better methods, Liverpool contractors had started a building trade club. That was an excellent idea; but it might be bettered by inviting representatives of the

men to discuss with them the best ways of decreasing costs and improving speed.

THE VICIOUS POLICY OF "CA' CANNY."

To craftsmen and trade unionists he frankly put the question, "Are you really doing your best, and do you sincerely believe you are getting the best results by grading down instead of up?" Incidentally, architects and builders might well ask themselves whether they were not deficient in some respects. Was the builder always supplied quickly with details so that he could place his orders for materials in good time, and did the builder always take advantage of such early information when he got it? Craftsmen could not be told too plainly that doing the minimum amount of work for the maximum amount of pay could only have one end—Britain would diminish to a second-rate or even a third-rate nation. The American system of grading up would be a great benefit if adopted here—a system which fixed a minimum wage, but allowed every man who cared to do his best to earn something extra.

If every man gave his best to the country there was no need to fear the bogey of foreign competition, but there were some features of foreign competition worth pondering. Foreign competition would be serious if it drew away our best workmen by offering them better opportunities in the sense that they would not be fettered and oppressed by unwritten laws which prevented the laying of more than so many bricks in a day. Finally, Mr. Rees criticised the principles of contracting. The old practice of working on a percentage of labour and materials was now, happily, dead, but the new method of fixed prices, subject to a rise in the cost of materials and wages, was exasperatingly complicated, and required an architect to be almost an accountant. The sooner some device was found which would let a client know quite plainly what his project was going to cost the better would it be for all concerned.

FRANK DISCUSSION WELCOMED.

Several members of the Master Builders' Association, who had been specially invited to attend, joined in the interesting discussion which followed the address. They welcomed the suggestion that Liverpool should establish a council of architects, contractors, and craftsmen, in which the problems of building could be freely and frankly discussed. The shortage of joiners was spoken of as one of the principal checks to building operations, and the Government was blamed for having absorbed so many into the shipbuilding yards, where so little work was required of them for good pay that the workers were demoralised. It was mentioned, too, that large numbers of the younger and more energetic members of the building and joinery trades had been attracted to the United States by the opportunities there offered of higher pay in accordance with increased output.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended September 27 was 93, bringing the total number of schemes submitted by local authorities and public utility societies to 5,105. The total number of schemes approved is 1,723. The number of house plans submitted is 633, representing 36,464 houses. House plan schemes representing 22,649 houses have been approved.

Mr. Harold Taylor has succeeded his father, Mr. J. H. Taylor, as borough surveyor of Barnsley.

The borough surveyor and the corporation architect of Reckle are to be allowed to take one articulated pupil each, on condition that the premium is divided equally between the corporation and the officials concerned.

The City of London Corporation have decided to accept the offer of the Islington Borough Council for the purchase of the freehold of the buildings and site of the Queen's and City Mansions, Metropolitan Cattle Market, for £19,070. The site is to be adapted under the provisions of the Housing and Town Planning Act.

Our Illustrations.

THE NORTH PORTALS, CHARTRES CATHEDRAL, FRANCE.

This plate was reproduced from a spirited and striking water-colour kindly sent us by Mr. J. E. Barry Pittar, A.R.B.A. The picture was shown at the City of London Art Gallery, E.C., when the R.B.A. Exhibition was held at the Guildhall early this year. A plan of this famous church and a general view of these same portals will be found in the "Building News" for January 2, 1891, delineated in pen and ink by Mr. Maurice B. Adams, showing the timber struts set up during the 'eighties, when this north transept was under structural repair, consequently the masonry between the arches had to be strongly braced, and remained so till the renovations were completed. This subject is too familiar to need particular description now, for, of course, it is one of the best known examples extant, and there is no finer piece of design of its kind throughout the whole of France. Eden Nesfield drew out several details of this facade for his "Specimens of Mediaeval Architecture," and all who wish to learn about the iconography of this splendid building will do well to consult "La Monographie de la Cathédral de Chartres," published many years since in Paris, also Abbé Bulteau's volume should not be overlooked when in quest for a good description of the figures, of which there are no less than four thousand. These statues are of all sizes, enriching the architecture of the cathedral, many having been coloured and gilded. They all were carved in Berchère stone, of which material the church was built. The dedication of the cathedral at Chartres took place in A.D. 1260. The portals, subsequently added, took thirty years to finish. Considering the lapse of time occupied in building this church, its uniformity of style is decidedly remarkable, though in its later detail, as might be expected, the foliage employed shows a marked development in the direction of more naturalistic forms. The work as a whole is harmonious, and yet it gains much in interest by the change of taste exhibited by the individual artists as the years passed by and generations changed their ideals.

THE LEYS SCHOOL, CAMBRIDGE.—PROPOSED ADDITIONS, INCLUDING THE WAR MEMORIAL AND HALL.

The King opened the new building of the library for Leys School at Cambridge on April 30, 1914, and the following day we gave a view and plan. Sir Aston Webb was the architect of this gateway building, leading to the Quad, which was thus completed. The library is 75 ft. long by 28 ft. 4 in. wide. The walls are faced with Daneshill red brick, having Ancaster stone dressings. Four years later, on May 2, 1918, we gave the architect's bird's-eye perspective of the cloisters and War Memorial centre-piece of octagonal shape, covered by a dome and enriched by figures of "Courage," "Justice," "Mercy," and "Truth." Both drawings were from the Royal Academy exhibitions of these respective dates. To-day we publish a double page reproduction of Mr. Maurice E. Webb's autograph elevation drawing of the proposed war memorial and hall to be erected for the same school. The architects are Sir Aston Webb, P.R.A., and Mr. Maurice E. Webb, M.A., F.F.R.I.B.A. This illustration is reproduced from the

original study shown at the Royal Academy, 1919. Mr. W. S. Frith did the carving to the previous buildings and Mr. Bankart modelled the ceiling of the library.

"IDEAL" WORKERS' HOMES SPECIALLY COMMENDED—DESIGNS—CONCRETE COTTAGES—THATCHED OR TILED.

One pair of the accompanying blocks of semi-detached dwelling for the industrial classes has tiled roofing and the other is thatched. They have both been approved by local governing councils. The special feature embodied in their scheme consists of their elliptical design in reinforced concrete construction, the subject of a patent. The system adopted insures the full employment of all enclosed cubic contents with no loss of space in roofs, besides several economic gains not otherwise procurable. Mr. Maurice S. R. Adams, A.R.I.B.A., the inventor, claims that by these means houses can be and are being built at about two-thirds of the cost involved in erecting similar class ordinary buildings of brick or stone and timber, all superficial areas and accommodation being equal. This difference of price at the present time is of the utmost importance, solving, as it does, most of the difficulties of the housing problem, and, moreover, it must always hold its own as compared with the usual style of building tenements in different materials and roofed either with mansards, sloped, or other kinds of wood-framed, or even concrete-framed, coverings of needlessly large scantlings, and this difference will prevail even should prices for other materials become moderated in a general sense in the future. This difference arises from the use of the minimum amount of material coupled with the maximum degree of strength and durability. The vertical outside walling may be either in solid 9-inch concrete blocks or of hollow walls in two thicknesses of concrete, or they may have 4½ in. of brickwork set inside or out, as shown by these examples. One of the "Maurice Adams construction" methods comprises concrete slabs of great strength and reinforced make used in arched roofing and for floors without joists or girders. The vaulted upper floor rooms are illustrated on these single pages, which include the plans and exterior perspectives reproduced from the original competition drawings of both designs awarded the distinction by the assessors of being specially "commended" in the recent "Daily Mail" competition of some 3,000 sets of plans. The artistic appearance obtained is the simple result of structural forms. The extra covering either of tiles or thatch serves to equalise the temperature at all seasons, but the concrete requires no covering to insure its being weather proof. When tiles are used they are set to a wide gauge, which effects a saving of 50 per cent. of the quantity of tiles required for a roof pitched to an angle of 45 degrees.

Stubbylee Hall, Bampton, an Elizabethan mansion, in the centre of the parish, is to be adapted to the purposes of a town hall, at a cost of £1,000.

The death is announced of Mr. T. G. Dee, the honorary secretary of the Sanitary Inspectors' Association. He had been honorary secretary of the association for upwards of twelve years. The funeral took place at Norwood.

Brown Corporation, on receiving three names of architects for selection to undertake their housing scheme, asked the Mayor to draw lots, with the result that Mr. Walter Rosser, of Abergavenny and Newport, was appointed.

Correspondence.

REBUILDING THE EMPIRE.

To the Editor of THE BUILDING NEWS.

Sir,—If architects are to have their proper share individually and collectively in rebuilding the Empire in a material as well as in a wider sense, and their rightful position now and in the future in the scheme of national service, some organisation must be evolved at once whereby the separate architectural bodies can take direct joint action at any moment on behalf of the whole profession.

It can be done if it is tackled in what the Prime Minister recently described as the "spirit which has brought us through the War," viz., the sinking of all personal feelings, the pooling of all essential resources, and the working of all together towards one objective for the common good.

It was in this spirit that the Architects' War Committee was formed, and the principle adopted by its founders of union by federation. If this committee has not accomplished all that some of its members hoped, it has at any rate served a most useful purpose in breaking down barriers, removing prejudices, and bringing into close and friendly relationship the representatives of architectural bodies hitherto personally unknown to, and to some extent suspicious of, each other.

The Architects' War Committee contains the nucleus of what I will call "The Federated Councils of British Architectural Societies," a body whose formation, under the title of a "Board of Professional Control," I suggested in April, 1912, little thinking how soon and under what circumstances it would come into being in principle, if not in fact and in name.

Would it not be well, before the Architects' War Committee is discharged, to call its members together and see whether or not the existing machinery erected for war work can be utilised or adapted for other purposes? I am afraid that if the machinery is once scrapped it may never be reconstructed or any new machinery devised.

The spirit which has brought us through the war will bring us through other troubles. We have had a long professional armistice, but peace has not yet been ratified, and contentious professional questions shelved during the war must inevitably arise again very shortly unless steps are taken at once to settle them by some such means as I have indicated.

The views I have put forward are my own: there is nothing new about them, but now is the time again to discuss my original proposal if it is thought to merit any further consideration. If anyone else has what he thinks is a better scheme, let him give the profession the benefit of it. It is high time that the energy, time, and money now expended by the members of the committees of separate professional bodies in trying to attain the same objective should be directed into a channel which will prevent overlapping, and result in unity of command and action.—I am, Sir, yours faithfully,

C. McARTHUR BUTLER.

Secretary of the Society of Architects.
28, Bedford Square, W.C.1.
October 6, 1919.

TO LIMESTONE QUARRY OWNERS.

Enclosed you will find 25 cents, or about one shilling in your money. Will you kindly forward me the address of the different quarries, especially limestone, which I see listed in your BUILDING NEWS. We need limestone for fronts.—Yours truly,

WILLIAM GRIER.

506, West 145 Street, New York.

A wayside memorial cross has been erected on Croshawell Hill, Gresford, near Wrexham, to the local heroes of the war. In dedicating the cross the Vicar of Gresford said that in medieval England there were no fewer than 5,000 wayside crosses. There were three in the parish of Gresford, one of which stood on the site of the new cross. At the base is placed the remaining portions of the cross that formerly stood near the same spot, from which the locality derives its Welsh name, Croes-howell, or, in English, Howell's Cross.

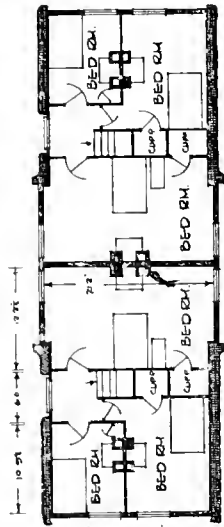
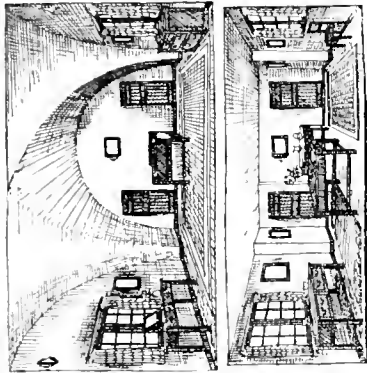
"MAURICE ADAMS"
CONSTRUCTION.

PATENT APPLIED FOR

COTTAGES FOR
WORKERS.

TYPE A
NORTH ASPECT.

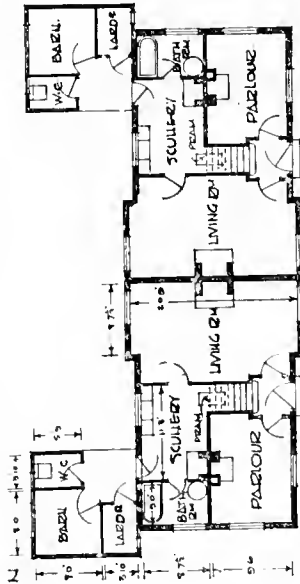
INTERIOR VIEW,
LIVING RM. & BED RM.



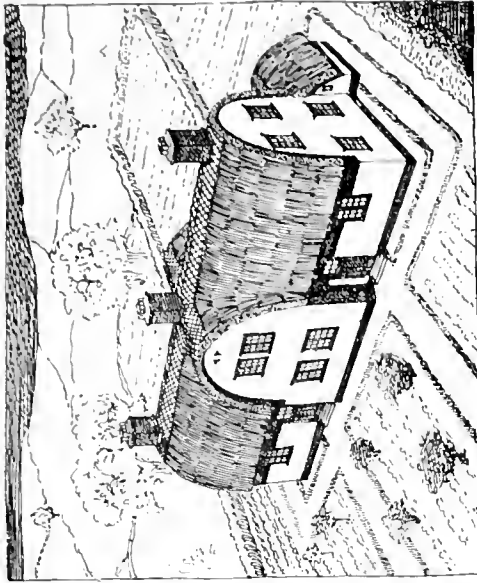
FIRST FLOOR PLAN.



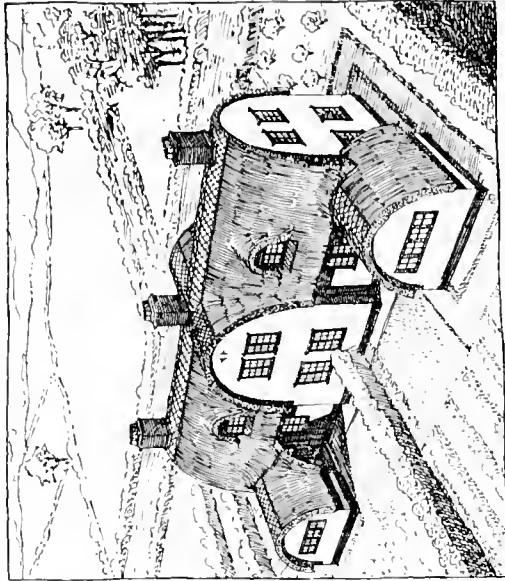
SCALE OF FEET.



GROUND FLOOR PLAN.



FRONT VIEW.



BACK VIEW.

MAURICE S. R. ADAMS, A.R.I.B.A.,
ARCHITECT.
1, MARLBOROUGH GATE, LONDON, W.1.

"IDEAL WORKERS' HOMES"; CONCRETE COTTAGES, THATCHED
(SOUTHERN COUNTIES), SPECIALLY "COMMENDED" DESIGN.

MR. MAURICE S. R. ADAMS, A.R.I.B.A., Architect.



THE BUILDING NEWS, OCTOBER 10, 1919.





THE NORTHERN PORTALS, CHARTRES CATHEDRAL, FRANCE.

From a Water-colour by Mr. J. F. BARRY, PITTAR, A.R.B.A.

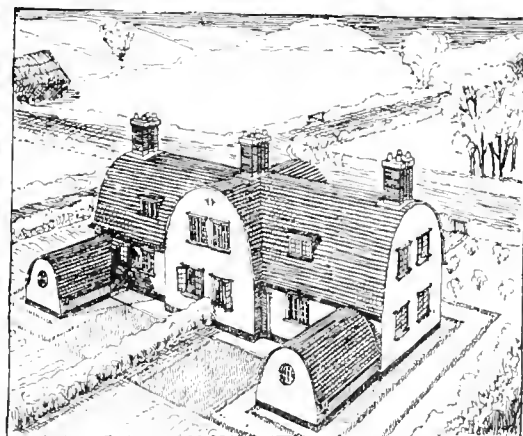
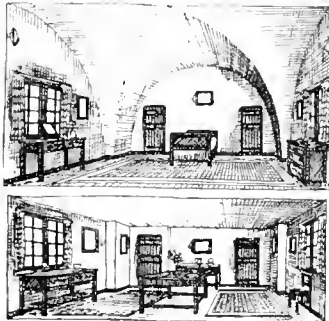
From the City Art Gallery, Guildhall, E.C. R.B.A. Exhibition, 1919.

"MAURICE ADAMS"
CONSTRUCTION.
PATENT APPLIED FOR.

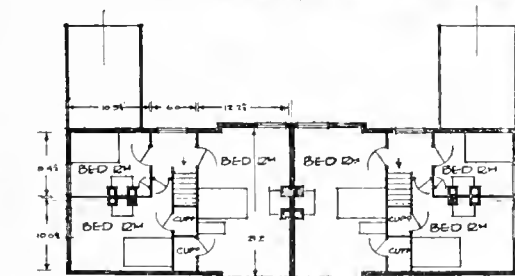
COTTAGES FOR
WORKERS.

TYPE B.
SOUTH ASPECT.

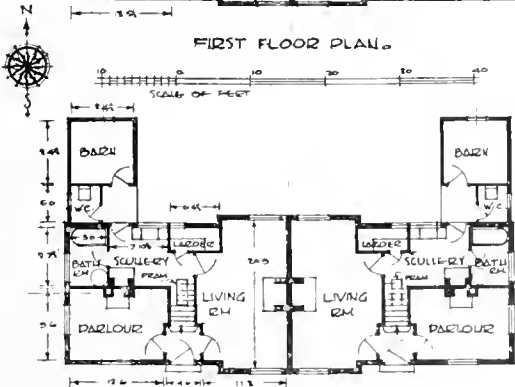
INTERIOR VIEWS
LIVING RM & BED RM.



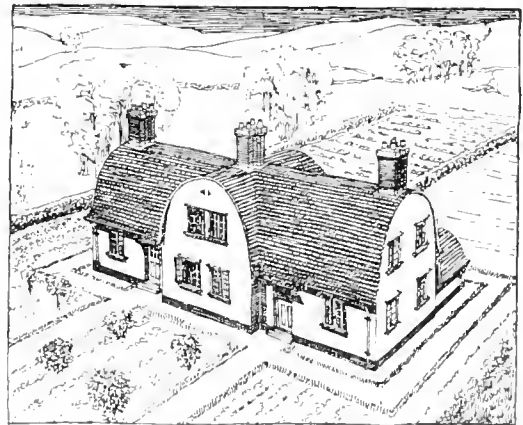
BACK VIEW.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.



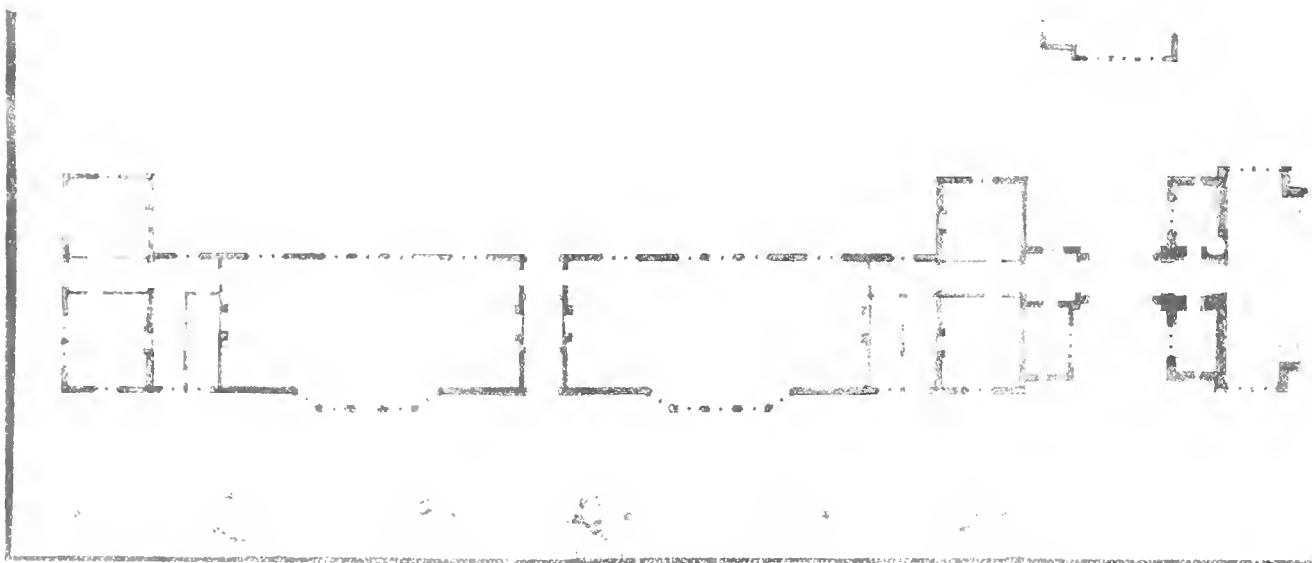
FRONT VIEW.

MAURICE S. R. ADAMS A.R.I.B.A. ARCHT.
1 MARLBOROUGH CREK BEDFORD PK W 4

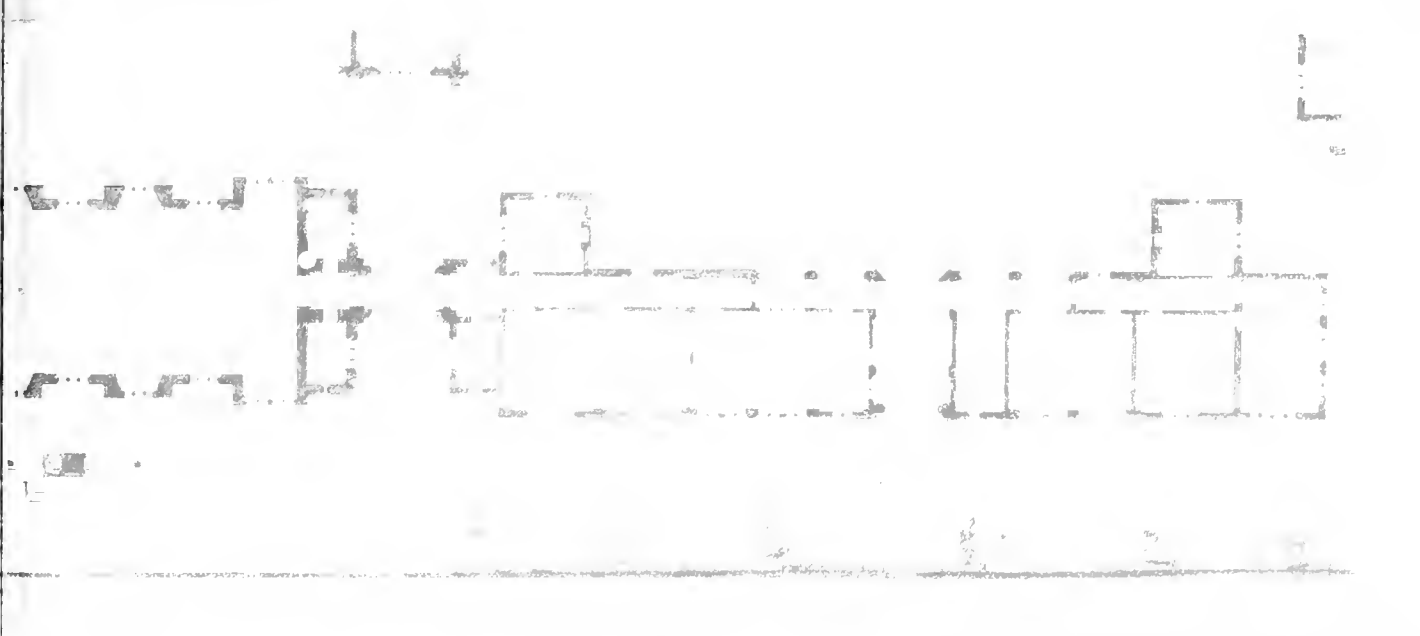
"IDEAL WORKERS' HOMES": CONCRETE COTTAGES, TILED
(SOUTHERN COUNTIES), SPECIALLY "COMMENDED" DESIGN.

Mr. MAURICE S. R. ADAMS, A.R.I.B.A., Architect.





THE LEYS SCHOOL, CAMBRIDGE. PROPOSED ADDITION.
SIR ARTHUR WELLS, F.R.A.S., R.C.A.D., C.P.A., and



THE LONDON COUNTY COUNCIL AND THE RELAXATION OF BUILDING BY-LAWS.

In response to the request of the Minister of Health, a conference was held, on September 18 between the representatives of the Ministry and the Building Acts and Housing of the Working Classes Committees of the London County Council, with the result that the following recommendations have been made by the two committees, a full statement of which appears in this week's Agenda of the Council. It had been reasonably hoped by the Council that the Ministry of Health would have indicated the particular by-laws it wished relaxed, but the Ministry of Health declined to do this, and only "wished to consult the Council before exercising their discretion." As far as they go the relaxations suggested seem to us reasonable, and likely to be beneficial. They are as follow:—

(a) That, in the opinion of the Council, it is very undesirable that in connection with housing schemes any relaxation of the provision of the London Building Acts or building by-laws in force in the County of London relating to (i.) the width of streets, (ii.) the formation of culs-de-sac, and (iii.) the height of habitable rooms should be granted.

(b) That for the purposes of housing schemes undertaken with the approval of the Minister of Health the Council do offer no objection to the relaxation of provisions of the London Building Acts or building by-laws in force in the County of London so far as may be necessary to permit:—

(i.) That in the construction of hollow walls for two-storey dwellings, two $4\frac{1}{2}$ -in. thicknesses, one on each side of the hollow space, may be provided, subject to the hollow space not exceeding $2\frac{1}{4}$ ins. in width, to the brickwork or other material being properly bonded, and to the load on the brickwork or other material not exceeding eight tons per square foot.

(ii.) That instead of carrying the party walls above the roofs of two-storey dwellings and blocks of houses up to and including 20 tenements, the slates or tiles of the roof may be bedded on the top of the party walls subject to the walls being oversailed to double their schedule thickness.

(iii.) That concrete hollow blocks may be used, subject to the load on the walls being determined hereafter and to the requirements of the London County Council (General Powers) Act of 1909 being complied with.

(iv.) That parapets to external walls of two-storey dwellings may be dispensed with.

(v.) That the thickness of the walls of domestic buildings not more than 30 ft. in length and 25 ft. in height may not be more than 9 ins. whatever the number of storeys.

(vi.) That the thickness of the walls of domestic buildings exceeding 30 ft. in length and 25 ft. in height may be $13\frac{1}{2}$ ins. for the lowest storey and 9 ins. above.

(vii.) That, except in the case of party walls, $4\frac{1}{2}$ -in. walls in cement may be provided between any two houses or tenements provided that every other enclosing wall of each of such two houses or tenements shall be of incombustible material not less than 9 ins. thick.

(viii.) That as regards the construction of walls specified in (v.), (vi.), and (vii.) the standard of pressure for brickwork specified in the London County Council (General Powers) Act, 1909, shall be complied with.

(ix.) That in the erection of cottages wooden door hoods and brackets of other than fire-resisting construction may be provided up to 3 ft. projection.

With regard to drainage it is pointed out that drainage is a matter which is under the control of the metropolitan borough councils as the sanitary authorities. In the interests of economy, combined drainage is desirable, and although the subject does not come within the London Building Acts, it is one which should be brought to the notice

of the Ministry of Health so that they may deal with it in the manner approved by them in the scheme for the development of the White Hart Lane estate on garden suburb lines.

ART, ARCHITECTURE, AND ENGINEERING.*

By JOSEPH PENNELL.

May I tell you what many of you may already know, that the great feats of engineering in the past were achieved by artists who were also engineers? This has been true from the very beginning of civilisation. Noah was an engineer when he built the ark, and I am sure that he decorated it with colours.

But, to skip from that period down to the time of two of the greatest engineers who have ever lived: one was Michael Angelo. In addition to being an artist, a painter, a sculptor and an architect, he was also an engineer and a poet. He designed (about 1547) and constructed, as an engineer, the whole of St. Peter's (Rome). He put the dome of that church in the air in a most wonderful engineering fashion, did it all himself, and was paid the munificent pittance of \$40 a month and a bag of flour, and then a mere sculptor and architect got the job and nearly ruined the building. The other, and almost contemporary with Michael Angelo, was Leonardo da Vinci, who likewise was an engineer as well as a painter, an architect, a sculptor and a caricaturist. Leonardo da Vinci built a great many of the fortifications around Milan. He built bridges and designed the first aeroplane known. Whether the machine, if constructed, successfully flew or not, I do not know, but in the British Museum, in one of his sketch books, there is a series of drawings for an aeroplane.

From the time of the Egyptians and the Assyrians down through centuries to the Greeks and the Romans, there was no difference between an artist, an architect, and an engineer. They all worked together, and worked with the same aim—building and beauty. Only a few years ago I went to Panama and saw that most wonderful piece of engineering—the Panama Canal. Just before the water was let in I went down there one day and was talking to Mr. Williamson, one of the engineers, the man who built what they call the "Miraflores" lock and the "Peter McGill" locks. They had other names in Spanish, but that is the way they are pronounced in English. The first time I went to the Miraflores lock to make a drawing, I saw two wonderful Romanesque buttresses in concrete leading up to the great lock gates, and I remember—the following Sunday night I think it was—we were sitting on Mr. Williamson's porch, and I said to him: "How in the name of heaven did you design those Romanesque buttresses just the way the designers of the cathedrals in the south of France did the same work?" He said: "I never heard of any Romanesque cathedrals or buttresses or anything of the kind, but if they built those buttresses the way I did, they were pretty good builders." Then I asked: "Why did you do it?" He replied: "For two reasons: first, because it is the strongest way to build an arch, and, second, because it saved concrete."

When I think of an American engineer knowing that much, it reminds me of another story. Colonel Goethals said one day a number of United States Congressmen and Senators came down to the Canal on a special steamer and landed at Colon. One of these gentlemen was good enough to ask the Colonel: "Have you any idea how long this concrete will last?" The Colonel replied: "No, I have no idea how long this concrete will last. Neither did the Romans know. But I know how long theirs has lasted, and this is going to last as long as theirs at least."

There are many other Panama stories that I could tell you of an engineering type, but what I want to say is this: That, having seen the Panama Canal and other great engineering works of this country and Western Europe, there were several things I wanted to find out, one of which was whether that state-

ment of Williamson's was so or not, whether the great lines of modern engineering were the same as the constructional lines of ancient art; and I went to Greece, where I knew I could find out whether I was right or wrong, and I found out that the structural, supporting, vital lines in the Greek temples are the same that you people are putting in concrete and steel work in the great iron works and every great building to-day—whether you know it or not, you are doing so, because from the very beginning it has been the strong line, the line of resistance, the line which everybody knows is the right one—the line of best support. The only difference is that in the past the Greeks and Romans devoted their energy and their skill to constructing temples and monuments while we to-day have our churches and our monuments in the great industrial works, the modern temples—the shrines of work. But every line that you put up is the line which was used three or four thousand years ago in engineering and building. You cannot improve those lines of construction, but only carry on tradition. Of course, instead of stone, you are using steel, but every line is the same, and that is the reason why the work of the engineer is so wonderful.

To get down to hard facts, instead of psychology and uplift and soul and various other things and "isms" of that sort, the proposition has been made that in this country there should be a Minister—not of Finance, but of Art. When you come down to it, that means that this country should have, as every civilised country in the world has, except Great Britain—and she would have had it if she had not had the war instead—a Minister to control, direct, and advise about art. And engineering is a part of it. We thought that we had done something in that last conference. I do not know that we have, because it means an enormous amount of work, and all the talking that went on there was only preliminary. Nevertheless, we have the idea, and if you adopt that idea as a Minister of Art, under him will be included the artists, the architects, the musicians, the players, and even you engineers. We are all going to come in under the circus tent because, to go back again for a moment when the Greek engineers designed their structurally perfect buildings, they always had architects, sculptors, and painters to decorate them. And that is what we have to do again to-day. You engineers must work with us, and we are bound to work with you.

Let us consider for a moment one of the great buildings in the United States—Cass Gilbert's Woolworth Building. He told me himself that it was simply an engineering problem. He said, "I put it up from an engineering standpoint, and had to hire engineers really to work out the construction, but I wanted to do what the engineers could not do—make that wonderful building beautiful." And he has. If such a structure were in London or Paris you would take an excursion steamer and go to see it, but now you do not pay any attention to it, except to put your hat on tighter as you go by, lest you might lose it in the wind that swirls round the base. Yet there is one of the greatest engineering problems that has ever been solved in this world. The bridges in New York are splendid examples of the same thing. The Brooklyn Bridge and Manhattan Bridge are, owing to your engineers, beautiful in line to artists. Manhattan Bridge has splendid approaches, and we have a chance here in Philadelphia, as Professor Laird told you two months ago, to make another beautiful bridge from Camden to Philadelphia. You must make it strong, to last, and the architects and the sculptors will make it beautiful. But in all these things, as I say, you and we artists must work together.

And that leads me to another question: At the present time everybody is thinking and talking about memorials, and every war memorial is to be devoted to the benefit of something or somebody. The whole question of war memorials is rather like a story that is told of a Bill that was brought up in the English House of Commons one day. A member got up and said: "I have a great Bill to propose for the benefit of Scotland." Im-

* An address delivered before the Engineers' Club of Philadelphia.

immediately a Scotch member arose and said: "And what are you doing for Glasgow?" He sat down and another member jumped up and said: "Nae, it's nae Glasgow. What be ye doin' for Sauchiehall Street?" A third caught the Speaker's eye: "Nae, 'tis not what ye be doing for Sauchiehall Street; it's what'll ye be doin' for me?"

Now, there is just the difficulty with the war memorial in this country. There is no big idea in the big country at all. Every local authority, in fact, every man, woman and child—especially the children—in this country has an idea as to just where the war memorials are going to be, and that they are to go in their town or village or street. That is their idea, and they don't care a cent about the rest of the nation.

When Napoleon won his battles at the beginning of the last century, when he conquered more or less of Germany, and thought he had conquered more or less of Italy, and thought he had conquered Russia, and attempted to conquer England—he built to the very utmost point of conquest his wonderful high roads. There are fifty or sixty of those roads, all starting from Paris to-day. He built those roads, and then, like the Romans, he decorated them. As you leave Rome by road, if any of you have, as I have, you know there is a road which stretches from the Forum in the City of Rome straight to the City of Newcastle, England. That road still exists and is used to-day. I do not say that the paving was not pretty terrible, but when that road was built and finished the Romans decorated it, and erected their triumphal arches, their great bridges, their temples, their theatres, all along it from Rome to Newcastle.

Before the war I saw a great deal of Germany. I was there when the war broke out. I do not know if any of you have seen that wonderful steel plant, the Cape of Good Hope Works, at Aberhausen. Well, there are a series of blast furnaces in the background painted every month or so a beautiful blue. The stacks are painted the most gorgeous vermillion, and in front of that wonderful colour scheme in the evening, when the sun sets, they have a grass plot. I have never seen such a colour scheme in all my life. Little trains carry fiery slag around it, and the colour scheme in the evening was beyond words. That thing, if put up on the highway—Lincoln Highway—would bring more people to see it than any cathedral or church. It is one of the most wonderful spectacles in the world.

The same thing was being done all "over there" just before they were driven into war. The same thing was being done at some of the shipyards. I have been at some of those yards, Whitworth's and the Vulcan. That German yard is a most beautiful thing, and it was designed exactly like a Greek temple. So are the New York Ship Building Company's yards; the interior of those yards is one of the most wonderful things I have ever seen, and yet they were purely engineering projects, designed on the line of the Greek Temple.

STATUES, MEMORIALS, etc.

HOLYOUBORNE.—A proclival war memorial for Holybourne, Alton, Hants, is now in hand. It includes a roll of honour in Pentelion marble, inlaid with red marble margins, and set in an alabaster frame, with a gilt cross in the apex, and having a green marble surround. The site is in the church, which is dedicated to the Holy Cross. The Royal Arms are to be at the base; at the sides it will have flanking shields carved and emblazoned with the arms of the Diocese of Winchester and of the County of Hampshire. The architect is Mr. Maurice B. Adams, F.R.I.B.A.

A new stained glass window has been placed in St. Leonard's Church, Newark. It is a representation of "Dorcas," the prototype of lady churchworkers. Messrs. Harvey Bros., Carter Gate, Newark, have carried out the work.

The Modern Section of the War Memorials Exhibition at the Victoria and Albert Museum is now closed. Some of the exhibits in this section are being transferred to the War Memorials Exhibition shortly to be held at Burlington House. The Retrospective Section will remain open for the present.

TESTS OF EIGHTEEN CONCRETE COLUMNS REINFORCED WITH CAST IRON.

The columns were made by Mr. L. J. Mensch, contracting engineer, of Chicago, and tested in the Pittsburgh Laboratory of the Bureau of Standards. Although such columns have been in use abroad for several years, the tests under discussion are the first of this type which have been made in America.

These columns were 12 inches in diameter (inside $1\frac{1}{8}$ inch pitch, 8-gauge wire spiral) and were reinforced longitudinally with steel rods and cast-iron tubes. The cast-iron tubes located in the centre of the columns varied in outside diameter from 5 to 7 inches with wall thickness of $\frac{5}{8}$ to 1 inch. The column lengths varied from 6 to 14 feet. Tests were made on samples of the cast iron; also on the concrete used, which was proportioned by volumes and consisted of one part cement, one part sand, and two parts gravel, hand-mixed.

The behaviour of these columns under loading was similar to that of the ordinary type of steel-reinforced columns. Incipient failure was in all cases accomplished by scaling of the outer shell, which finally spalled off at the surface of the spiral. This was followed by failure in tension of the spiral reinforcing at the maximum load sustained by the column. The protective shell outside the spiral fails at a strain of .00145 (ave.). This is the same strain at which the test cylinder failed.

The maximum strength of the column is not quite equal to the strength of the cast-iron reinforcement tested independently plus the strength of the usual type of spirally reinforced column. The cast-iron reinforced column has, however, a much less area of concrete.

The columns commenced to scale at 70.4 per cent. (ave.) of the maximum load. Two columns of the same series without cast-iron commenced to scale at 89.9 per cent. (ave.) of the maximum. The average maximum total load sustained by the various types reinforced with cast iron and of the same length (10 feet) as the two plain spiral reinforced columns was 81.5 per cent. greater than was sustained by the plain spiral columns. Filling the hollow core of the cast-iron tubes apparently adds 6,500 lbs. for each square inch of cross section thus filled. Varying the radius of gyration of the cast-iron tubes, the net cross section area remaining constant does not apparently affect the ultimate strength of the column. Cast-iron I sections were used instead of tubes in two of the columns, the results comparing favourably with the tube columns having the same percentage of cast iron.

The following formula for variation of strength with length is derived from these tests:—

$$P = 12,150 - 20 L, \text{ in which}$$

P = mean stress upon total area of column inside the spiral.

A = total area as above.

L = length of column in inches.

In view of the general behaviour of spirally reinforced columns just preceding failure it is suggested that a superior type might be developed if the protective shell outside the spiral were applied after the column has been cast and the forms removed. This shell should be of some material possessing the necessary heat-insulating qualities and the ability to withstand without failure a considerably greater strain than .0015 (the strain at which unreinforced concrete fails). This method of construction would also make possible a much greater accuracy in the placing of the spiral.

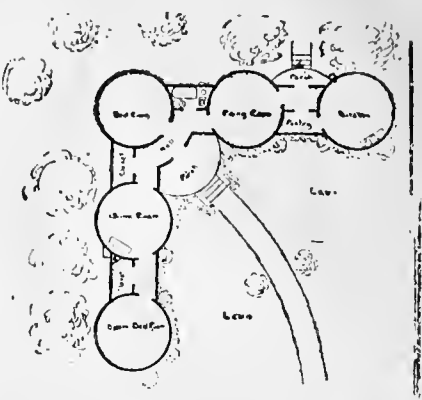
A site for a public library has been given by the Hampstead Garden Suburb Trust, and a building grant conditionally promised by the Carnegie Trust. The Hendon District Council has therefore adopted the Libraries Acts, the suggestion being to erect a central library with a branch in each ward.

An exhibition of Serbo-Croat art, comprising sculpture by T. Rosandic, paintings and etchings by M. Ranki, T. Krizman, and S. Popovic, was opened on Saturday at the headquarters of the Serbian Red Cross Society, 9, Ennismore Gardens, S.W. Admission is free, and the exhibition will probably remain open until the end of November.

HOUSES THAT COME IN PIECES.

Mr. C. N. Wisner, of New Orleans, is the inventor of a system of housing which consists of a series of round, unit rooms connected by hall units and finished off with porch units. These units, made of concrete, are said to be fireproof, weatherproof, warm in winter and cool in summer. With proper care the units should last more than one hundred years.

The feature of Mr. Wisner's invention is that the units can be moulded in quantities and readily transported to the site of the proposed house. A family can start



with a home consisting of two or three units, connected by hall units and finished off with a porch member. Any time in the future the family can increase the size of the home by adding units in any desirable manner. The home may be laid out in the form of an L or T, or even a square with an enclosed court, since the units are flexible in so far as their arrangement is concerned. The hall units are provided with closets, so that the more halls are used the greater the closet space available in the expanding home.

PROFESSIONAL AND TRADE SOCIETIES.

LIVERPOOL ARCHITECTURAL SOCIETY.—An Annual Travelling Scholarship of the value of £50, open to members of the Liverpool Architectural Society (Incorporated) under the age of thirty years. In computing age the time spent in war service may be deducted. The scholarship for the year 1920 will be awarded for the best essay on the architectural work of one of the following architects, to be selected by the competitor, viz.:—John Vanbrugh, Christopher Wren, or Inigo Jones. The essay to be illustrated by pen and ink sketches, and of an approximate length of 5,000 words. If in the opinion of the council no essay submitted is of sufficient merit to justify an award, the scholarship may be withheld. The successful candidate will be required to submit an outline of his proposed tour for the approval of the council, who will pay the income of the scholarship in two instalments. Drawings or documents may not bear any distinguishing mark, and all documents must be typewritten. A plain sealed envelope shall contain the name of the author. Competitions, marked "Honan's Scholarship," and addressed to the Secretary, are to be delivered at 8, Victoria Street, on or before January 31, 1920. Candidates for the 1921 scholarship must have been elected members of the society not later than January 31, 1920.

SOCIETY OF ARCHITECTS.—In view of the Press controversy as to the merits of various forms of building construction and materials advocated for speeding up the supply of houses, especial interest attaches to a meeting of the Society of Architects to be held at 26, Bedford Square, W.C., on October 16, at 8 p.m., when Sir Charles Ruthen, O.B.E., a member of the Council of the Society, will explain the nature of the experiment which he has made in rapid house construction in South Wales. In his view the five essentials in housing at the present moment are rapid

construction, weatherproof qualities, strength, lasting qualities, and cost. There is nothing new about the system, which is simply wood framing adapted to British climatic conditions inside and outside by means of bitumen varnish-proof sheeting, with laths fixed to the framework, treated on the outside with cement rough-cast or brick veneer, and on the inside with plaster, the roof being slated or tiled according to taste or locality. It is claimed that the houses so constructed have the important advantage over the vast majority of brick and stone houses of being cool in summer and warm in winter, and are probably much more suited to this climate than the type of wooden house so popular in Canada. Sir Charles' proposal is at any rate of great interest to all concerned in the housing question, and the meeting will be open to anyone interested in the question of providing houses quickly at a reasonable cost.

COMPETITION.

"OWEN JONES" PRIZES.—The Council of the Royal Society of Arts hold a sum of £400, the balance of the subscriptions to the Owen Jones Memorial Fund, presented to them by the committee of that fund in 1876, on condition that the interest thereof be spent in prizes to "students of schools of art, who, in annual competition, produce the best designs for household furniture, carpets, wall-papers and hangings, damasks, chintzes, etc., regulated by the principles laid down by Owen Jones." The Council are now prepared to offer six prizes in each of the years 1920 and 1921 for the following subjects:—In 1920: Domestic pottery and table glass; metalwork, including work in precious metals, ironwork, jewellery, enamelling, etc.; textiles, including lace, embroideries, openwork, dress brocades, dress designs and costume accessories (including fans), printed fabrics for dress. In 1921: Book production and ornamental leatherwork, including covers and lining papers for bookbinding, title pages, lettering and printing posters, trade labels and advertisements; wall papers and other mural decorations; textiles, including damasks, brocades for decoration and furniture, printed fabrics for hangings, vestments and church fabrics (including altar frontals, etc.), figured velvets, and figured muslins. Each prize will consist of the society's bronze medal, and a copy of a book or books on applied art, of a value not exceeding £2, to be selected by the successful competitor. In addition to the above prizes, the council offer a special prize of £20 for the best design (irrespective of class) submitted for competition. The Council reserve the right of withholding any or all of the prizes offered, and they will be the sole judges in each individual case of the qualifications of a competitor to receive an award. The competition is limited to students of schools of art. No competitor may send in more than a single design for each of the above-named manufactures, but that design may be accompanied by one or two working drawings or other illustrative sketches. A sample of manufacture executed from the design may be submitted with or in substitution for the original design; but every submitted work must be approved by the master or other authority of the student's school, who must also certify that the design is the work of the student sending it in, and that it has been executed since the last competition in which the subject of the design was prescribed. No candidate who has already received an Owen Jones prize for any of the above-named manufactures can take part in the competition. Competing designs must be sent, carriage paid, and labelled "Owen Jones Prize Competition" on the outside, to the Director and Secretary, Victoria and Albert Museum, South Kensington, S.W.7, between June 21 and June 26, 1920. They may be delivered by hand on any one of the three days ending June 26. The sender must also notify the secretary of the Royal Society of Arts by post that the design has been sent in, and must enclose stamps or P.O.O. for the return carriage. No special conditions are laid down as to the size or character of the drawings sent in.

Our Office Table.

The programme of the University Extension Lectures for the coming session has now been issued. Central courses are to be held in the University buildings and in the City, while local courses, at some sixty centres, in and around London, will prove of inestimable value to the student in the suburbs. The subjects treated cover a wide range, and literature, history, science, painting, architecture, music, and economics are all well represented. At South Kensington, Mr. Percival Gaskell, R.B.A., will give a course of lectures on "English and French Painters," while in the City Professor John Cox, M.A., LL.D., will deal with "Scientific Discoveries and their Practical Applications to Life and Industry." For the peripatetic student it would be difficult to find anything more interesting than the courses of lectures and demonstrations to be delivered by Mr. Allen S. Walker, on buildings such as Fulham Palace, Eton College, or the House of Lords.

Meeting at Swainsthorpe Workhouse last week, the Henstead Rural District Council made a protest against the way in which the district housing scheme was being held up by the higher authority. Presenting the report of the Housing Committee, Mr. J. A. Christie said they had had a very long conference with Major Douglas, the housing commissioner. There were also present Mr. E. T. Boardman, consultative architect, and their three architects, Mr. Skipper, Mr. Stanley Wearing, and Captain Cecil Upcher. They spent about two hours trying to come to some agreement about their plans, and eventually the Major said he would pass Mr. Wearing's plans. Mr. Skipper asked for his plans to be passed, and Major Douglas then said he would pass them. The others left the meeting feeling that at last they had made a start, but found to their disgust later a letter from Major Douglas stating that he would only pass one of the plans—facing south. As Mr. Wearing had only two houses facing south it did not help them very much, the other plans were turned down. "This is very annoying indeed," added the speaker, "and we are very disappointed. The position is this—we have got practically all our sites fixed and got practically the three most eminent architects in the county. They have worked very hard indeed, and have produced admirable plans, and they tell us that the houses will be good. They are also cheap houses, and the absurd people in London will not pass them because the slops will have to be carried through the living room. We feel we have got to the end of our tether. We feel we cannot ask these architects to produce more plans, and our position is we want you to say that this is the way the houses should be built, and if the Ministry of Health will not consent to it, we will go out of the business and let them take their compulsory powers and put up the houses." Mr. Christie, in conclusion, submitted the draft of a letter to be sent to the Ministry of Health on the lines of his report, and stating that the Council were anxious to proceed with its scheme, but unnecessary obstacles were delaying the work, and a considerable amount of friction was resulting. The chairman moved that the Council support the Committee, who had worked very hard indeed. Canon E. S. Fardell seconded, and the motion was agreed to.

A comparatively simple method of estimating the strength properties of timber from the density, or specific gravity, is set forth in Bulletin 676 of the U.S.A. Department of Agriculture, "The Relation of the Shrinkage and Strength Properties of Wood to Its Specific Gravity," which has just been issued. By the analysis of over 200,000 tests on wood of many species, the Forest Products Laboratory of the Forest Service has definitely established the relations between the specific gravity of wood and its strength properties. Equations for these relations have been worked out and have been reduced to such simple form that they may be solved by arithmetic and without the use of higher mathematics. In selecting timber for any

given purpose, in comparing various species of wood, in estimating the properties of any particular wood, the equations should be found useful. To supplement the equations in determining in what way a species is exceptional and to what use it is best adapted, there is a tabulation showing the variation from the average equation of each property of the various species tested. This variation from the average equation is often what determines the usefulness of a species for a special purpose.

The Rev. J. Sadler Phillips, vicar of St. Matthew's, Ealing Common, has decided to abandon his much-discussed church colour scheme as a parish war memorial. There was a sharp cleavage in the congregation on the question. A plebiscite shows that only 71 favoured the scheme, 93 were against, while 138 abstained from voting. It was intended to have medallion portraits of fallen soldiers above ten pillars connected with festoons of flowers. Objection to the proposal was taken on the ground that its execution would convert the church into something resembling a picture palace.

The refusal of the Rochdale Town Council last week to sanction, even provisionally, a tender for house building at Spotland without having the amount before them was quite justified. Alderman Clark said he had never known a previous case in which the Council had been asked to approve a contract in the absence of the price. The tender has gone to the Housing Commissioner for consideration, and his decision had not come at the time the Council was sitting. The argument for the Committee was that the provisional sanction was asked for to save time, and that in any case the Council would have an opportunity of discussion before the matter was finally decided. That may be, but if they had passed the resolution the Council would have committed themselves in the dark. As it was the minute was withdrawn. If full particulars were not available on which the Council could judge it ought not to have been submitted at all. It was suggested that the figures may be altered by the Commissioner—that is, we suppose, something may be cut out of the tender to reduce the amount which is said to be heavy, as, indeed, all that were submitted were. Possibly the revision may be such as to justify asking other contractors to tender again. In that case the proper course was to wait till the full facts of the tenders could be given before seeking the Council's approval.

An exhibition of camouflage occupies three galleries at the Royal Academy, including good and bad examples. Most of the British camoufleurs are artists including Lieutenant-Colonel S. J. Solomon, Lieutenant-Commander Norman Wilkinson, Captain Philip Connard, Lieutenant Cecil King, and Lieutenant R. H. Barker. Lieutenant-Colonel Solomon's "Our First O. P. Tree" (2) is a very successful piece of work. In another picture—portrait (149)—may be seen among the accessories a model of a soldier's head made by camouflage workers to draw the fire of snipers. The models of camouflaged places will probably interest most visitors. The Naval Dazzle Section is well represented by designs which effectively break up the surface of a vessel, so that the submarine observer's eye cannot fix on any point of its moving objective, which thus escapes the torpedo. The most successful specimens include Nos. 20, 87, 125, 127, 156, 161, and 199. Besides the camouflage pictures there are a number of paintings and drawings of the war.

The Pickering Urban District Council have approved Mr. Whiting, of Beverley, as architect for the proposed new town hall, etc.

At the request of the Lord Mayor-Elect (Sir Edward Cooper), Mr. Louis Parker is drawing up a scheme for a mayoral pageant symbolic of the League of Nations. Mr. Parker has on several previous occasions acted in a like capacity.

The London Museum, Lancaster House, will be reopened to the public at 10 o'clock on the morning of the 22nd inst. Its chief contents are topographical views of the metropolis, models of London buildings, and several galleries illustrating the aspect of London in the great war.

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Court, W.6 .. 44,421 0 0

Farby Construction Co., Ltd.,
317, High Holborn, London
W.C.1 .. 43,555 0 0

Linzell, Frank L., 309, King's
Road, Chelsea .. 41,000 0 0

King, Freeman, and Co.,
Golders Hill, Hampstead .. 37,980 0 0

Guttridge, J., and Sons, Park
Road, Peterborough .. 34,900 0 0

Farrow, Howard, 20, Barrington
Road, Brixton .. 32,775 0 0

Hodman, S. P., London Road,
Luton .. 31,630 0 0

Ramsbottom, G., 6, St.
George's Parade, Golders
Green .. 29,888 0 0
Accepted.

KIRKCALDY.—For works in connection with the erection of factory at Wemyss Station, Mr. W. Williamson, F.R.I.B.A., architect, Royal Bank Buildings, Kirkcaldy. Schedules by Mr. James Gingles, F.F.S., surveyor, Kirkcaldy. Accepted tenders:—

McDonald and Ross, Methil, for brick and concrete works, £2,246; Galloway, Robert, Methil, for carpenter and joiner work, £296 16s.; Barnett and Morton, Kirkcaldy, iron and smith work, £618 11s. 6d.; Nicol, William, Buckhaven, plumber work, £97 7s.; and Nicholson, J. and N. Dyssart, painter work, £47 11s. 9d. Total, £3,406 6s. 6d.

LIVERPOOL.—For conversion of forty-four huts into sixty-eight temporary houses, for the corporation.—

Griffiths, Wm., Sons, and Cromwell, Ltd., 22, Upper Duke Street (accepted).

LIVERPOOL.—For the erection of houses for the corporation.—

Jones, J. W., for building 100 semi-detached houses on the Lisham Farm Estate; and Ellis, Edward, for a block of four houses on the Elm House Estate (accepted).

LLANDAFF.—For extensive additions to the Retreat, Fairwater Road, Llandaff, Mr. G. E. Halliday, F.R.I.B.A., F.R.I.B.A., 9, Quay Street, Cardiff, architect.—

Evans and Co., Cardiff .. 43,829 0 0

Davies and Co., Cardiff .. 3,055 0 0

Blackler and Co., Cardiff .. 2,950 0 0

Gibson, J. W., Cardiff .. 2,917 0 0

Symonds, J. W., Cardiff .. 2,880 0 0

Gould, T., Cardiff .. 2,709 9 6

Haines, R. E. J., Cardiff .. 2,636 12 6

Thomas, T. J., Cardiff .. 2,550 0 0

Julian, A. W., Pontypool .. 2,495 18 5

Knex and Will, Bangor St.,
Cardiff .. 2,394 0 0
Accepted.

MURRAY HARBOUR.—For the first part of the new street works in connection with the housing scheme, for the Murray Harbour Urban District Council, Mr. H. G. Coates, A.M.I.C.E., F.S.T., engineer and surveyor, Council Offices, Market Har-

borough:—

Muirhead, Wm., Macdonald,
Wilson, and Co., Ltd., West-
minster, S.W.1 .. £5,202 15 8

Johnson and Langley, Westcoates
Drive, Leicester .. 4,046 3 8

Ball, C., Letchworth, Herts .. 3,745 16 3

Hickman, J., and Sons, Market
Harborough .. 3,650 10 10

Chamberlain, C., Leicester (with-
drawn) .. 3,280 17 0

PAISLEY.—For works in connection with the housing scheme at Albion Street and Greenock Road, for the town council, Mr. J. F. Johnstone, Town Clerk, Municipal Buildings, Paisley. Accepted tenders:—

McTaggart, J. A., and Co., 65, Bath Street, Glas-
gow, for excavation, brick and mason work; Gib-
son, Wm., St. James Street, Paisley, joiner work;
Stevenson, A., and Son, 2, Storie Street, Paisley,
slater work; Malcolm and Co., 11, St. Michael
Street, Paisley, plaster work; Huran, N. G., and
Sons, 39, Cansey-side Street, Paisley, plumber work;
Sellers, G. W., 211, West George Street, Glasgow,
painter work; Hunter and Goudie, 5, Cansey-side
Street, Paisley, electric lighting. Total cost of work,
£20,000.

SEAHAM HARBOUR.—For 12 semi-detached houses (a
first section of about 300 houses). For the urban
district council. The lowest tender received was
£12,570. No tender was accepted, the council com-
municating with the Northern Housing Commissioner.
The following sent in tenders: Pitt, H. E., contrac-
tor, Sunderland; White, J. W., contractor, Sunder-
land; Curry, T. and E., contractors, Seaham Har-
bour; Henry Bell, contractor, Ryhope, Sunderland;
Cooper, W. B., and Sons, contractors, Sunderland.

SOLINGHAM.—For school buildings, for the Farm School,
Solihull. For the Cambs Education Committee.—
Kerridge, C., Jnr., .. £7,777 0 0
Recommended for acceptance.

SOUTHEND-ON-SEA.—For additions to High School
for Girls, Boston Avenue, for the education com-
mittee:—

Chesnuts, Ltd., Imperial Works,
Portland Road, Tottenham,
N.15 .. £11,460 0 0

Strange and Sons, Ltd., 34,
London Road, Tunbridge Wells 10,736 0 0

Arnold, A. J., "Rosemead,"
Chalkwell Gardens, Leigh-on-
Sea .. 10,700 0 0

Moss, S. E., Bourne-mouth Park
Road, Southend-on-Sea .. 10,200 0 0

Symes, A. E., Carpenter's Road,
Stratford, E.15 .. 10,110 0 0

Flaxman, J. C., 70, Southchurch
Road, Southend-on-Sea .. 9,497 0 0

* Accepted.

CHIPS.

Mr. R. Morton Rigg, of Penrith, has been appointed architect for the enlargement of the Penrith Cottage Hospital.

An urgent demand for dwellings exists throughout New Zealand, and the erection of buildings is being retarded owing to the shortage of skilled labour, particularly carpenters and joiners and plumbers.

What, asked a correspondent of the *Times* last Tuesday, should we think of a man who persisted in writing cheques, dating them years in advance without a balance at his bank to meet them? This corresponds to the present action of the Government.

The Nottingham Corporation, which had rejected suggested housing schemes on the score of expense, have, after receiving a letter from Dr. Addison, Minister of Health, decided to proceed with a plan to build, as a first instalment, 175 houses at an estimated cost of £150,000. Plans for a further 400 dwellings have been prepared.

By a judgment of Mr. Justice Curran, of Winnipeg, Thomas H. Kelly, contractor, is ordered to pay back to the Government of Manitoba £254,000, the amount which, according to the decision of the Board of Appraisal, was received by Kelly in over-payment on contracts for the construction of the Manitoba Parliament buildings.

A fine of £30, with 30 guineas costs, was imposed at Marylebone Police Court on Monday on Cecil Cracknell, civil engineer, Avenue Villas, Maxton, Dover, for making a false claim to the Metropolitan Water Board for water rate allowance in respect of empty property at Savill Street, Marylebone. It was stated that he claimed £4 4s. 10d. for empty water-rate allowance, whereas he was only entitled to 2s.

We understand that Sir Jesse Boot has purchased the Highfields Estate, Beeston. The property comprises about 140 acres, and extends from Out Through Lane, Old Lenton, to the Midland Railway. Sir Jesse has also purchased Lenton House, Beeston, and, with it, over twenty-seven acres of land. It is stated to be the intention of Sir Jesse to erect large works on the Highfields Estate, and also to build a garden city for the housing of the people who will be employed.

LIST OF TENDERS OPEN.

BUILDINGS.

Oct. 14.—For 34 houses, etc., by four separate tenders, at Farnham, Surrey.—For the Farnham Urban District Council.—A. J. Stedman, F.R.I.B.A., South Street, Farnham.—Tenders to J. W. Wright, clerk, Council Offices, South Street, Farnham.

Oct. 14.—For all trades required in the erection of a cinema hall in Ingram Parade, Rothwell.—For the Rothwell Public Service, Ltd.—Architect, Mr. E. Scholfield, Leventhorpe House, Woodlesford, near Leeds. Tenders to the office of the Company, 4, Commercial Street, Rothwell.

Oct. 14.—For a smith's shop at the Tramway Depot, Thornton Heath.—For the Croydon Town Council.—Tenders to J. M. Newham, town clerk, Town Hall, Croydon.

Oct. 14.—For 65 houses at Ellesmere Port.—For the Ellesmere Port and Whitby Urban District Council.—Lockwood and Abercrombie, Cathedral Chambers, St. Werburgh Street, Chester, architects. Tenders to T. W. Francis, clerk to the Council, Council Offices, Ellesmere Port.

Oct. 14.—The Small Holdings Committee of the Flintshire County Council invites tenders for the erection of farmhouses and outbuildings at Green Gates, St. Asaph, and Hope Hall, Cae-gwale, Sam Evans, county surveyor, Mold, Flintshire.

Oct. 14.—For works at the Borough Isolation Hospital, Durrington, near Worthing.—For the town council.—Tenders to J. Kennedy, Allerton, town clerk, Municipal Offices, Worthing.

Oct. 16.—For 179 houses at Biggleswade.—For the rural district council.—H. Chandler, clerk, Council Offices, Biggleswade.

Oct. 17.—Twenty houses at Chisleton.—For the Highworth Rural District Council.—R. J. Bewick, M.S.A., 10, Victoria Road, Swindon, architect. Tenders to W. P. Kirby, clerk to the council, Council Offices, 10, Victoria Road, Swindon.

Oct. 18.—For a chimney, 140 feet high, and economiser chamber at Upton Asylum, Chester. H. Boswick, F.R.I.B.A., Newgate Street, Chester, architect. Tenders to H. Potts, clerk to the Committee of Visitors, Northgate Street, Chester.

Oct. 20.—For 244 artisans' dwellings at Hendon.—For the urban district council.—G. Hornblower, F.R.I.B.A., 3, Devonshire Terrace, Portland Place, W.1, architect. Tenders to H. Humphries, clerk to the council, Town Hall, Hendon, N.W.4.

Oct. 20.—The Commissioners of His Majesty's Works invite tenders, to be addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1, for the extension of Richmond, Surrey, Post Office.

Oct. 20.—The Commissioners of H.M. Works invite tenders, to be addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1, for the extension of Weymouth Post Office.

Oct. 20.—Tenders are invited for erection of 36 cottages on the Yeovil Road site, Sheehorn.—For the urban district council.—Tenders to the architect, Mr. H. A. Welch, A.R.I.B.A., 7, New Square, Lincoln's Inn, W.C.2.

Oct. 22.—Messrs. Gilbert, Cantling, Ltd., Seid-on Aero and Engineering Co., Sanderstead Road, South Croydon, invite tenders for alterations and additions to factory premises.—Applications to architect, Gilbert Cantling, Ltd., Sanderstead Road, South Croydon.

Oct. 23.—For the erection of eight houses in blocks of four (Contract No. 3); 12 houses in blocks of four (Contract No. 4); 10 houses in pairs (Contract No. 5); four houses in pairs (Contract No. 6), in Park Lane, Orrell.—Tender to the Chairman of the Housing and Town Planning Committee, and delivered at the Town Clerk's Office, Town Hall, Bootle.

Mr. Gordon Allen, F.R.I.B.A., architect, has moved his offices to 435, Strand, W.C.2. Telephone: Gerard 3781.

On the recommendation of the General Purposes Committee, Mr. James Peter Orr, C.S.I., was last Tuesday appointed Director of Housing to the London County Council, at a salary of £2,000 a year, for two years.

The meeting of the General Council for the National Registration of Plumbers, which was to have been held at the Guildhall on Tuesday, September 30, having been unavoidably postponed owing to the railway strike, the Lord Mayor has arranged to open the proceedings at 10.30 a.m. on Saturday, October 25, at the same place.

It is understood that plans are being discussed for the re-establishment of the White City at Shepherd's Bush as an entertainment centre, and the Government are making arrangements for an early withdrawal. Part of the premises are to be vacated this month, but it is not anticipated that the whole will be handed over to its owners until the end of the year.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

West Portals, Chartres Cathedral, France, from a water-colour drawing by Mr. Barry Pittar.

Strand, W.C.2

A.R.B.A. From the Royal Society of Painters in Water-colours Exhibition, 1919.
Reconstruction of Abington Castle, near Aylesford, Maidstone, Kent. Mr. W. D. Caroe, M.A. (Contract), F.S.A., F.R.I.B.A., Architect.
War Memorial Chapel, Dean Close School, Cheltenham. Mr. Leonard W. Barnard, F.R.I.B.A., Architect. Two views and plan.
"The Mermaid," Hestery, Rye, Sussex, dating from 1450. Sale by auction, October 14, 1919, by Messrs. Hampton and Sons. Four views.

Currente Calamo.

The Ministry of Health's new regulations stating the conditions under which local building by-laws may be modified with regard to the extended housing scheme proposals, are issued. They leave a wide discretion to local authorities as to materials and methods of a kind not permissible under the present by-laws. Free permission will be given to local authorities to permit the erection and use as dwellings of Army huts and similar structures. Consent to the erection of dwellings built of wood, or other materials not coming within present by-law requirements, will be given for a limited period, which may be from time to time extended. Appeal to the Ministry of Health from the decision of a local authority is provided for. The principle adopted is that the materials used in structures—especially the external walls—under the Housing Act shall give sufficient stability and protection against the weather. Five types of buildings are specified, comprising houses with hollow walls of either brickwork or concrete slabs; walls of timber framing, covered externally for weather protection; steel framing, covered externally and lined internally; brick houses carried on piers; and hollow concrete-block houses. Certain general conditions will apply to each type of house. In the case of wooden buildings the external walls must be borne upon piers of brick, stone, or other suitable materials at not less than 6 ins. above the surface of the ground. There will have to be a damp-proof course, and the site of the building within the external walls, whenever dampness or the nature of the soil renders it necessary, must be covered with a layer of concrete.

We have read with satisfaction the evidence offered last week before the Royal Commission on Income Tax on behalf of the Surveyors' Institution. The injustice wrought by the present system to owners of real property could not have been more clearly demonstrated. It is most unfair and unjust that while the man of business is taxed on his real net profits, a landlord has to pay an arbitrary sum fixed by the Inland Revenue authorities. He has not infrequently to

devote a year's rental to repairs, but he is only allowed one-sixth of his outlay. Even for ordinary current repairs his allowance was insufficient in pre-war time, and now it is ridiculously inadequate. Mr. Ryde's suggestion that the allowance should be increased from one-sixth to one-fourth, at least, was a most moderate one, and surely can hardly fail to be accepted. As regards his proposal that the cost of repairs and insurance of empty property should be set against income from other sources, it must be evident that this is the merest justice. The difficulties experienced in obtaining money overpaid are patent enough to all; but whether Mr. Ryde's suggestion that, except in the case of repairing leases, a tenant should not be allowed to deduct from his rent a greater sum than he would have had to find had he himself paid the tax, would work well, may be doubtful, but the present difficulties in obtaining refund are so vexatious that no change could be worse. The anomalies of that most iniquitous and out-of-date tax, the Inhabited House Duty, have so often been commented on that it is needless, surely, to emphasise its effect. Although paid by the tenant, it reduces rental, and it is, moreover, an additional burden, and tenant and landlord have enough to do, directly and indirectly, to meet the ever-rising total of rates, which is presently to be increased so portentously by the Housing Act. When all is said and done, the product of the Inhabited House Duty is relatively so small that it is really time it was abolished.

Commenting on Mr. Justice Astbury's letter in the *Times* of the 8th inst., Mr. William Woodward, F.R.I.B.A., F.S.I., has a letter in the same journal of Saturday last, pointing out that last month Dr. Addison stated, with reference to the housing scheme, that the total expenditure on 500,000 houses was estimated at £335,000,000, and that was on the assumption that £670 was the average figure for the cost of each house. "Since that statement," says Mr. Woodward, "I have had two interviews with Sir James Carmichael, the well-known contractor, and the head of the housing scheme, who has kindly furnished me with every particular I ask for as to what was, and what was not, included in the estimate of £570 per house. I have

now arrived at the conclusion that, including all the necessary expenditure with regard to roads, sewers, drains, fences, etc., no house could be built, on the general lines of that proposed by the Ministry of Health, under the sum of £1,200. Assuming that the rent to be obtained for each house, from the working classes, would be about 12s. 6d. per week, and making the usual calculations for interest, rates and taxes, insurance, management, general repairs, empties, etc., the annual loss to the nation would be not less than £65 per house. Therefore, the loss to the country on 500,000 houses would be not less than £32,500,000 per annum, and if the agriculturist could only afford to pay 3s. 6d. per week for his house, then the loss to the country would be about £50,000,000 per annum. It is quite clear that whether the loss is sustained by the local authorities or by the State, it must ultimately come out of the taxpayer's pocket, and add year by year enormous sums to the National Debt. The question is whether, in these circumstances, the State is justified in proceeding with this housing scheme, which is quite clearly 'a leap in the dark.' To that question our opinion is there can be only one answer, and that is that it is rather a push into the abyss of national bankruptcy.

It is clear that if the Government do not find the necessary money, the nation will go unhoused; while, on the other hand, the idea of further State borrowing on a large scale, for this or any other purpose, is not one that will be readily welcomed just now. The following suggestion, offered in the *Times* of Tuesday last by Mr. R. M. Thomas, writing from the Reform Club, is surely worth consideration? Let the Government issue a Housing Loan Stock, say on the same terms as the recent Funding Loan, and let each application state the Local Government area to which the applicant wishes his subscription to be credited; and let it be understood that a local governing body will be entitled, subject to proper conditions, to a loan from the Treasury for housing purposes up to the amount of stock attributed to the area which it represents. The scheme would make each borough or district responsible for the delay in meeting its own needs, and would at the same time enlist

town pride and local public spirit towards the relief of the State's present financial embarrassment, which, it is admitted on all hands, is perilous.

Birmingham's municipal houses are to be let at a rent of approximately 22s. per week. That was the statement made to the Press last Saturday by Mr. Sward James, the chairman of the Birmingham Housing Committee, apropos the memorandum of the Ministry of Health, who advised the adjustment of rents under the new housing schemes on the assumption that a normal level of prices will in 1927 be two-thirds of the present level. Mr. James said: "The effect of the housing schemes will be that a house which costs, with the land, about £800 (which will be about the average cost of our houses in Birmingham) will be rented at something like 22s. per week. The real economic rent for a house costing that amount would be about 33s. I am afraid the public will have to realise that, even with the large Government subsidy to approved municipal schemes, they are in for very heavy rents on these houses. In fairness to the Government, it should be remembered that at the end of the war they were bound to do one of two things: either to put private enterprise in a position to build, which would mean the immediate removal of the Rent Restriction Act, and a great deal of disturbance and public ill-feeling, or to build through the agencies of the municipalities, and get for those houses the nearest figure they could to the economic rent. They thought the latter course would be the least disadvantageous, and the housing committees of the country are carrying out the Government policy. They are providing houses for that portion of the working class that can afford to pay for them, anticipating that the houses these vacate will be available for those who cannot afford to pay quite so much. Housing committees all over the country are most anxious about the costs, which are working out at about £800 or £900 a house in all the big towns."

The lectures on anatomy by Professor Thomson, which were postponed owing to the railway strike, commenced at the Royal Academy of Arts, Piccadilly, on Wednesday last.

Faced with tenders for painting work 700 per cent. higher than those received eight years ago, Derbyshire County Council has decided to defer the work. A suggestion that they should protect themselves against such profiteering by setting up their own works department was generally endorsed.

In a claim for possession of a house at Swansea County Court, Judge Rowlands said landlords were commonly insisting on selling and refusing to let. It was just as if they had gone on strike and would do nothing. They were all profiteering. The only way people could get houses reasonably was to refuse to buy them, and meantime to live together as much as possible.

Two discoveries have been made in St. Albans Abbey by the Rev. E. H. Evans, a full account of which is given in the *St. Albans Diocesan Gazette*. Mr. Evans observed that two portions of the wall were filled in with plaster. One of these, in the east wall of the Wheathampstead Chantry, he thought might conceal the remains of a famous record. But his investigations brought to light the base of an early English pillar, the face of which had been cut away apparently to receive an altar-stone.

WAR RELICS AND THEIR WAYS.

We do trust our own readers are not forgetting the approaching municipal elections, or the coming general election, and that unless they bestir themselves, not at the parrot-cries of party caucuses, there is little chance of escape from the war relics of the past five years in Parliament, or the not very noble army of martyrs to the delusion that *laissez faire* is the whole duty of man. Among all classes of taxpayers and ratepayers the cry for deliverance from the Circumlocution Office is daily gaining volume, and that every response to the far too few attempts to wake up the sluggards and dullards is the merest whitewash. Take, for instance, one now before us in the latest copy of the *Scotsman* to hand. Rear-Admiral Adair, M.P. for Shettleston, recently sent a letter to the Secretary for Scotland stating that he had been informed by Glasgow Corporation that the Local Government Board (now the Health Board) had created vexatious delays in sanctioning schemes that had been put forward and in providing material, and that though an army hut was asked for in March, the corporation were still waiting for it. The need for housing in Shettleston district was urgent, but no actual building was going on there except a confectionery factory. The Admiral referred to several suggested schemes for the district, and stated that certain landowners there had asked scandalous prices for ground—£1,000 and £2,000 an acre.

The reply of the Scottish Secretary is a choice model of its sort. Mr. Munro states that as regards the alleged delays this allegation would appear to refer to recent criticisms by the Board of Health's officers of the specifications drawn up by the local authority's officials for the erection of the houses. It was absolutely essential to see that no unnecessary expense was incurred, and it was arranged that an officer of the Board would visit Glasgow and adjust the points in dispute with the local authority. This was done on September 24. Regarding the delays in respect of material, the Board were not responsible for the matter. Glasgow, in the Coplawhill scheme, did not take advantage of the arrangement whereby the supply department of the Ministry of Munitions provided materials for housing schemes, but preferred to make their own arrangements. The supply department would assist the corporation when the latter indicated their needs. The application for an army hut was not made to the Board, and any delay rested elsewhere. As regards the high cost of land, the new Acquisition of Land (Assessment of Compensation) Act provided machinery for the determination of the price, and when the local authority for Glasgow had made up their minds whether or not to acquire compulsorily any portions of ground, there should not be any delay in disposing of the applications. If the local authority submitted any proposals on the lines of the Admiralty suggestions as regards the erection of tenements or the provision of temporary accommodation by means of army huts, the Board would be prepared to give them full consideration.

We trust Admiral Adair will peg away again, because we are certain that the official explanation he has had is neither more nor less than camouflage of the poorest sort. As far as it goes, every easy excuse is true. But that that vouches to Admiral Adair conceals facts germane to his strictures, and is nothing

more than a laboured defence of delay due to the invincible inertia of the Departments concerned, is evident. That delay has degenerated into dry-rot of the most deadly nature during the past six years in all that appertains to the work of the Government, and is responsible for all our present labour troubles, as it was for the miserably inefficient mobilisation of the industries of the country during the early years of the war. Most readers probably have forgotten that as long ago as 1911 the Government appointed an Industrial Council, which was to be a permanent organisation to deal with labour grievances, and on which delegated representatives of employers' and workers' organisations, presided over by an impartial and non-political chairman, were to deal with the whole question. That Industrial Council set to work and drafted a Report (Blue-book Cd., 6952; 1913), and subsequently a Bill embodying its recommendations. This was pigeon-holed, nothing more was ever heard of it, and the Council was allowed to lapse. All who will take the trouble to compare the Report referred to with the lines on which the present so-called National Industrial Council was constituted, will hardly fail to discover why the latter body has utterly failed to deal efficiently with the industrial tangle of to-day.

It seems, unfortunately, impossible to stir up the voters at large to greater vigilance, either at election times or in regard to the behaviour of their representatives afterwards. That is why we appeal to architects, comparatively few of whom are likely to be led away by ignorant party rancour, but who are clear-sighted enough to discriminate between things that need doing in the common interest, and the stupid intolerance that trades on the ignorance of the voters or voted for. We sometimes recall with satisfaction our own experience in this connection during the first six years of the Metropolitan Borough Councils. Elected, at the start, on one of the largest, we had throughout the hearty co-operation of the late Mr. Thomas Blashill, then lately retired from his well-filled post as architect to the London County Council, and Mr. Henry Hall, and with such auxiliaries it was seldom impossible to carry the other business-like men with us because they discerned that our action was based on actual knowledge and uninfluenced by any political prejudice or personal considerations. We failed, unfortunately, to combat the penny-wise, pound-foolish preference for cheap foreign articles to the disadvantage of British capital and labour; but a huge debt left by the preceding Vestry was wiped off, the rates were kept at a low level, and other advantages secured. To-day the struggle will be so much more of the nature of a forlorn hope everywhere that it should enlist all capable men, at any sacrifice of time and energy, and we are fully persuaded none capably serve than architects.

The total amount of the contracts already entered into by the city of Liverpool, both for the erection of houses and the conversion of huts, is approximately £400,000.

The Tottenham Urban District Council have applied to the President of the Royal Institute of British Architects to nominate architects to carry out their housing scheme. The following appointments have now been made subject to the approval of the Ministry of Health: Supervising architect, Capt. L. Rome Guthrie, M.C., A.R.I.B.A.; executive architects, Capt. G. H. Lovegrove, F.R.I.B.A., Mr. Thomas Rayson, A.R.I.B.A., and Mr. G. S. Couchman, M.S.A.

LONDON COUNTY COUNCIL.

MR. W. E. RILEY'S RETIREMENT.

At the Council meeting on October 7, as we stated in our last issue, the Rt. Hon. Lord Downham of Fulham, J.P., in the chair.

As the Council is aware, Mr. W. E. Riley will on October 12, 1919, relinquish the position of architect to the Council and superintending architect of metropolitan buildings, which he has held since 1899, and we feel sure that the Council will wish to take this opportunity of placing on record its appreciation of the very valuable services which Mr. Riley has rendered to the Council and to London.

Among the onerous duties which have developed upon Mr. Riley during his term of office have been the securing of designs for, and the arrangements in connection with the erection of, the New County Hall, the erection of buildings including the Greenwich generating station, the central car repair depot, the new Sessions House at Newington, the Central School of Arts and Crafts, fire stations, working-class dwellings, and technical institutes. Moreover, after the Council had taken over the education service, the whole of the architectural work connected with that service was transferred to Mr. Riley. His architectural ability is manifested in the buildings for the design of which he was responsible, and in the architectural treatment of the superstructure of Vauxhall Bridge. We may also remind the Council that Mr. Riley was associated with the late Mr. Norman Shaw, R.A., in advising on the designs submitted for the elevations of buildings in Aldwych.

Since Mr. Riley first entered the Council's service the work in all branches for which he was responsible as architect to the Council has very greatly increased, and he has had, in addition, as superintending architect of metropolitan buildings, a very heavy and increasing amount of statutory work under the London Building Acts and the Factories and Workshops Acts.

In the retirement of Mr. Riley the Council is losing the services of an official of whose ability, zeal and devotion to duty it has had abundant evidence. We recommend:—

That the Council, upon the conclusion of Mr. W. E. Riley's tenure of office as superintending architect of metropolitan buildings and architect of the Council, records its appreciation of his architectural ability which has found expression in permanent form throughout the country, and its recognition of the strenuous work performed, and the high sense of public duty displayed by him during twenty years in the service of the Council.

Mr. J. W. Gilbert, chairman of the General Purposes Committee, in moving the recommendation said:—Mr. Chairman: It is with very great pleasure, but at the same time with very deep regret, that I move this recommendation with regard to the retirement of our chief architect, Mr. W. E. Riley. After more than 20 years of strenuous, devoted, and fruitful service for London on his part, I am sure that the members of the Council will agree that the Council would be failing in its duty if on his retirement it did not place on record its grateful appreciation of the remarkable work which he has accomplished for London—(Hear, hear)—work I venture to say, which has left a mark upon London from the building point of view, a mark which I believe will endure for generations to come.

In retiring from the Council's service I believe that Mr. Riley is achieving a record as far as public work is concerned from the architect's point of view. He has been more than 20 years in the service of the Council. Before that time he was more than 20 years in the service of the Admiralty, so that he will retire after having completed 42 years' service as a public official—as an architect for London and for the Country. Before Mr. Riley came into the Council's service he had made a great reputation for himself in connection with the Admiralty work. The Admiralty showed their great opinion of his ability by placing him in charge of many stations in this country—the stations at Chatham, at Devonport, and at Portsmouth at different times; and also by sending him, in connection with important constructional work, to different parts of the

Empire—to Bermuda, to Halifax in Nova Scotia, to Ceylon, and to Malta. Before he came into the service of the Council he was assistant director of Works to the Admiralty, and I understand, though I am afraid I was not connected with the Council at the time, that when the Council secured his services the Admiralty were criticised in Parliament for allowing the Government to lose the services of so capable an official.

Of his work in connection with the Council, there are many members here who can speak much better than I can. Various facts are stated in this report enumerating some of the important buildings in London for which Mr. Riley has been responsible. But I think it is desirable, sir, on this occasion, just to give a few figures to show how extensive Mr. Riley's work has been in connection with the Council. In connection with the Council's housing undertakings, Mr. Riley, during his tenure of office, has designed accommodation for no fewer than 56,000 persons; of those designs, accommodation for 51,000 has already been completed. He has been responsible for designing the equivalent of 50 Fire Brigade Stations in various parts of London. He has been responsible for the erection of all the tramway depots and stations in various parts of London. And although he has only been for a few years in charge of the educational side of the work of the Council, during that short period, in connection with the Elementary Schools alone, he has designed plans for 61,000 places.

I should also like to refer very briefly, sir, to the great part that Mr. Riley played in connection with the amendments to the various London Building Acts—(hear, hear)—the evidence which he gave considerably affected the character of those Acts; and in addition to that he has been responsible for various technical codes that have been prepared in connection with steel construction and ferro-concrete construction, which have not only been adopted in London, but have been used in various parts of the country and in various parts of the Empire.

Two years ago the Council showed its confidence in Mr. Riley by extending his services beyond the age of sixty-five years.

I would like to mention that perhaps one of the best pieces of work which Mr. Riley has accomplished in recent years, was the reorganisation of his staff in connection with the war. When the war broke out the staff consisted of 594. Of these no fewer than 410 joined the colours—(applause)—yet Mr. Riley managed to reorganise his staff, and to carry on and continue the great amount of work for the Council which he did.

In conclusion, I am sure the members of the Council will agree with me that the Council will find it difficult to secure an officer who will give more strenuous service than Mr. Riley has done; who will put himself more whole-heartedly into the service of the Council; and who will have such a great idea of the possibilities of London. On behalf of the Council, surely, I may wish him every possible happiness in the retirement which he has so richly earned. (Applause.)

The Rev. Scott Lidgett, Leader of the Progressive Party, in seconding, said he would like to thank the Chairman of the General Purposes Committee for expressing in such felicitous language the appreciation which they all felt for the great service which Mr. Riley had rendered to the Council, and also to London. Those who knew how many-sided had been the work which had been entrusted to Mr. Riley would feel that the versatility which had originated from their architect was hardly equalled, and certainly not surpassed in the case of any one of the Council's great officials, and not only so, but behind the versatility he had the highest gifts of the artistic temperament, and was a man of almost adamant strength. Mr. Riley's memorial would be in buildings of all types, put to all uses, of all degrees of importance, and if he might say so—of security; all had been done with a thorough devotion to duty, with a sense of duty which they recognised. At the same time Mr. Riley had done immense service to the safety of the people of London, and helped the Council to take a fair stand in support of the safety of the people. "It is a great thing to be a great official: it is a

great thing to be a great citizen, but when a man is both, then he wins a tribute of respect and gratitude from the community which cannot be surpassed." Mr. Riley would retire with that testimony to the immense service he had done for London. He trusted his services would long live in the heart and mind of the people, and also that in that Mr. Riley would find some compensation for having to give up office. In conclusion, the Rev. Scott Lidgett referred to the services of Mr. Riley in connection with the rise and progress of New County Hall.

Mr. Dew said he would like to add a word from the Labour benches. It had fallen to his lot to serve on Committees directly in connection with Mr. Riley during the whole period of Mr. Riley's term of office, and he could testify to the zeal with which Mr. Riley had served the Council. The splendid ability which Mr. Riley had brought to bear on his work had resulted, he felt sure, in generally raising the standard of architecture in London. Mr. Dew particularly referred to Mr. Riley's work in connection with the Building Acts and the Educational Services, and went on to say that when Mr. Riley took over the housing work very little housing had been done, "but when he came on to Housing it went along with a real swing." He invited the Council to note the marvellous progress Mr. Riley had achieved, particularly in connection with block dwellings, which were as near perfection as was possible. Mr. Riley, too, had desired to build larger cottages with more accommodation, but he had to work within the limits laid down by the Council, and yet some of the Estates were "a picture," and he hoped that the new Estates would be on the same lines, even though the houses were to be more commodious. Mr. Dew also referred to Street Improvements, particularly Aldwych and Kingsway, and said that at times Mr. Riley had to convince his Committees as to the need of good architecture, but he had convinced them with the result that they had on the verge of completion one of the grandest thoroughfares in any capital of the world—"and we owe that to Mr. Riley, to his zeal to have nothing but good architecture." With regard to the New County Hall he remembered how when it was first spoken of, Mr. Riley at once prepared a sketch elevation. He had prepared it during a week-end, and he believed it was still to be seen in Mr. Riley's office. Although the Council had not called upon Mr. Riley to design the building, he was glad to know he was associated with the selected architect, for he was sure that his helpful influence would result in good construction. In addition to all this, Mr. Riley was an artist (hear, hear), and he himself had in his possession a book of Mr. Riley's sketches, "On the River." Mr. Riley had left his mark on the work of the Council, and they all hoped that he would have many years during which he could look back. They regretted that Mr. Riley was leaving, but he would go with the heartiest good wishes of all those who knew him.

The resolution was then put by the Chairman and carried by acclamation. The Chairman then invited Mr. Riley on to the dais, and Mr. Riley's appearance was the signal for great applause.

The Chairman, in addressing Mr. Riley, said that as Chairman of the London County Council he should like to associate himself with every word of the three speeches which had just been made in regard to the admirable work covering a great portion of a most valuable lifetime. The handshake which he would give would be a handshake given by every member of the Council, and by every member of something like six Councils which had preceded it, who equally knew and equally valued the valuable work he had done. Moreover, the members of the Council represented the millions of London, but London did not know its great men. If he (Mr. Riley) had been a great military commander his photograph would have been in every newspaper to-morrow. Or some statue would have been put up to him—it might probably have been one with which he (Mr. Riley) would have been altogether disgusted. (Laughter and applause.) But when he came to his pillow and asked what there was of value in his work—countless buildings which beautify London

would remain, and he would know that his life had an ample record, long after he had left, tens of thousands would enjoy those buildings which he had erected when architect to the Council.

The Chairman then shook hands with Mr. Riley, amidst the loud applause of all the members. In calling upon Mr. Riley for a speech the Chairman said that he would still have some connection with the Council on New County Hall. Further, he would always have the deep admiration of every man and woman who had come in contact with him in his work.

Mr. Riley said that he was sure that those of them who had ever been through a similar experience would thoroughly appreciate and sympathise with him in his utter inability to find words to express his feelings after all the kind words that had been said to him by the Chairman of the Council, by Mr. Gilbert, by the Rev. Scott Lidgett, and by his old friend Mr. Dew. Memory, with one of her lightning-like backflashes, which are so inexplicable and illuminating, took him back twenty years to the day when he last stood on the same days, and the Council welcomed him to his office. He came into the service with enthusiasm, and he rather felt he had a good deal of latent fire and energy for the work he had to undertake. The first lesson he learned—and he had to learn it rather quickly—and it was rather a hard lesson—was that he had to burn his own smoke. (Loud laughter.) Still, he had determined to make every effort to make a success of the great work with which he was entrusted.

He came to the Council as an enthusiastic "houser." There was a good deal of trouble in getting the housing matters to move, but they did move, and he was still an enthusiastic "houser"—when the programme to be undertaken was a common sense and reasonable programme.

Building law was to be the next thing he was to protect and thoroughly sustain. Building law had had as many changes as the Council, and to-day was a totally different building law from that which he undertook to protect and sustain, but he had determined he would always try to make good honest building the standard in London for he had felt sure that with good building London would get good—very good architecture. That, he trusted, was the result which would live after him in every man's work.

The safety of theatres and places of public entertainment was another matter to which he attached very great importance, and after he had entered the service he applied himself vigorously to secure public safety, and he thought that to-day London's theatres and factories were the safest in the world.

Many of them had no doubt reflected in the past few years on the peculiar privileges of being born at great periods. He might be excused for wishing that he had been superintending architect when Solomon's temple or the temples of Karnak were built; in Athens under Pericles; or in the Eternal City, with its great Coliseum, during the Empire. The period closing his official career did not particularly sparkle; though he found that the past was never prosaic. He had, however, lived through a great war and he hoped some enthusiastic chronicler would remember that he was superintending architect during the great European War.

The fact that he was there speaking to that great assembly was one of the most wonderful and notable things in his career.

Many people spoke of his office as not being exacting, but, to take one instance only, he would remind them that during the war he personally had dealt with over one thousand buildings required for war purposes—a wonderful addition to the war service of the county, realised by very few persons.

He had had many disillusiones since he came to the Council. The offer which Mr. Norman Shaw made twelve years ago to collaborate with him to build a County Hall was one. He wished, however, to remember, not the disappointments but the advantages of life; these he wanted to keep green in his memory. (Hear, hear.)

We were constantly speaking of irresistible change, but generally we meant change in

everybody except ourselves! It was seldom more than an idea to us personally, but the change for him was not to a time of ease—that would be too precipitous!

Of those who welcomed him when he first came into office at the Council, only nine were there to-day, and 40 per cent. of the members of his first Council had gone to their eternal resting place. These figures showed something of the mutations of public life, and for him the present was a very solemn moment. He would conclude his remarks by saying that he was leaving behind him a loyal, patriotic, and efficient staff who had served the Council well. It had been a great joy to him to see the way they responded in regard to the war.

He realised after forty-two years of strenuous public life that

"So much a long communion tends
To make us what we are. Even I
Regain my freedom with a sigh."

He then thanked the Council for the resolution which they had passed. (Great applause.)

Our Illustrations.

RECONSTRUCTION OF ALLINGTON CASTLE, NEAR AYLESFORD, MAIDSTONE, KENT.

Mr. W. D. Caröe, M.A., the architect to the Ecclesiastical Commissioners, exhibited this drawing at the Royal Academy last summer, in illustration of a scheme designed by him for the reinstatement of this Kentish castle, once a stronghold of Saxon origin. The Conqueror granted it to William de Warrenne, who is said to have erected his castle on this site. Sir Stephen de Penchester, who rebuilt part of Penshurst, was later on granted a licence to fortify and embattle this castle. Through the Cobhams and Brents early in the reign of Henry VII. it passed to Sir Henry Wyatt. Elizabeth, after the Kentish rebellion, confiscated all the manors of the Wyatts and gave Allington to Sir John Astley, from whose family it passed in 1720 to the first Lord Romney. A broad moat, fed by the Medway, nearly surrounds the castle, which commands the river passage at an important point, but the situation is unusually low for a fortified place. The plan is a long parallelogram, with circular towers projecting at intervals, and enclosing two distinct courts, that on the south being the earlier part. The main entrance is on the northern end, and still retains the portcullis groove. Above this portal, twixt the bastion towers, was an important apartment, as usual in Tudor castles, such as at Haver, with its associations of Henry VIII. and Anne Boleyn, near Edenbridge, in the same county. The guardroom is to the west of this gateway, and in the court fronting the Medway the hall and chapel appear to have stood. A range of low buildings divides the twin courtyards, the elder one, with its lofty tower, having at one time served as the keep.

WAR MEMORIAL CHAPEL, DEAN CLOSE MEMORIAL SCHOOL, CHELTENHAM.

This chapel has been designed as a war memorial, to be built at the Dean Close Memorial School. Internally it is to be of Bath and local stone, with fumed oak fittings and open timber roof. The style of architecture and ornamentation is advisedly somewhat restrained and simple. The exterior is chiefly of stone roughly dressed, but brickwork is introduced to a slight extent, as the school buildings with which it harmonises are all of red brick. The architect is Mr. Leonard W. Barnard, F.R.I.B.A., of Cheltenham.

"THE MERMAID" HOSTELRY, RYE, SUSSEX.

This house is believed to have been built about the middle of the fifteenth century. It is one of the choicest pieces of Old English domestic architecture in existence, and several rooms bear evidences of the days of Elizabeth and the French Kings. On the window of the Panelled Room is scratched "Roddy, 1705"—the pet name of Louis. That smugglers used the place is clearly evident from the secret staircase leading from the Lounge to the "Smugglers' Well," also the many staircases in unsuspected positions. The cellars have old stone groined roofs of the Tudor period, the carving of which is in excellent preservation. At one time the house was undoubtedly occupied by Florentine monks; the carved frieze and ecclesiastical emblems on the panelling clearly point to this fact.

The history of Rye begins with the Saxon record of the old Danish freebooters. The town was fortified by William de Ypres in the reign of King Stephen, the Landgate and Ypres Tower still remaining as tokens of its ancient strength, and are fitting memorials of the man who built them. The town, one of the Cinque Ports, more especially flourished in the reign of Henry VIII. Records of the opulence of those days may be gathered in the great Parish Church, where the "merchants and shipmasters of Rye" are laid to rest.

The Town Hall, with its carefully preserved possessions, the Pillory and the Iron Cage, and the Landgate, are among the many interesting features of the town.

Rye retains to an extent almost without parallel in the country all its old-world charm, and "it is the living presentment of a town of centuries earlier."

Last Tuesday, the 14th inst., Messrs. Hampton and Sons held an auction for the sale of the property, which is situated in Mermaid Street.

WEST PORTALS, CHARTRES CATHEDRAL. A WATER-COLOUR, BY MR. BARRY PITTAR, A.R.B.A.

Last week we gave a double page of the North Portals of this famous church, by the same artist, who to-day has lent us another spirited drawing from the same building, of which a few descriptive notes appeared with the previous picture.

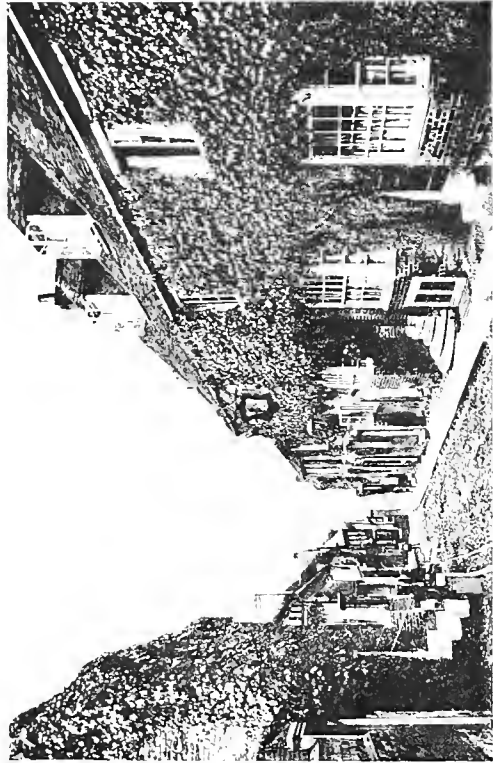
HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry of Health during the week ended October 4 was 96, and the total number of schemes submitted by local authorities and public utility societies to the Ministry is now 5,189. The number of schemes approved is now 1,783, 60 schemes having been approved during the week under review. The number of house plans submitted is 654, representing 38,050 houses. House plan schemes representing 24,388 houses have now been approved.

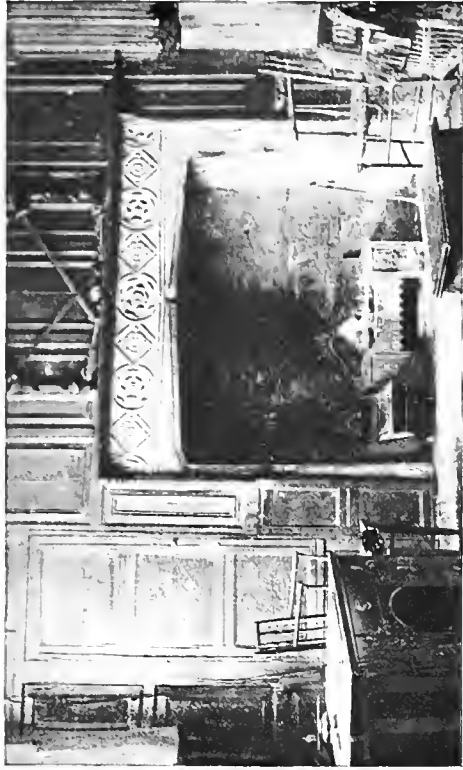
Twenty-eight local authorities in England and Wales have made definite application for Army huts, with the view to their conversion into working-class dwellings. In 17 of these cases the huts have been placed at the disposal of the local authorities. Eight local authorities are actually in possession of the huts, and in 5 local areas the work of conversion has begun. The families in actual occupation of converted Army huts now number 134. All except four of the applications from local authorities have been made within the last six weeks.

Mr. U. Burke, of Edensor, Chatsworth, has been appointed chief agent for all the Duke of Devonshire's estates in England.

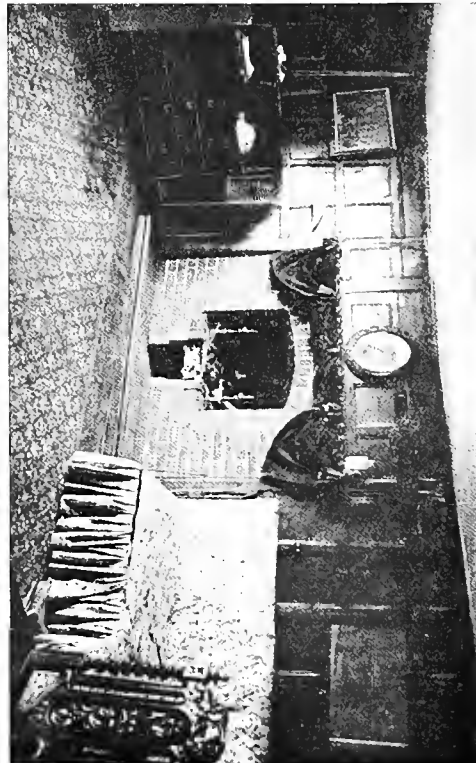




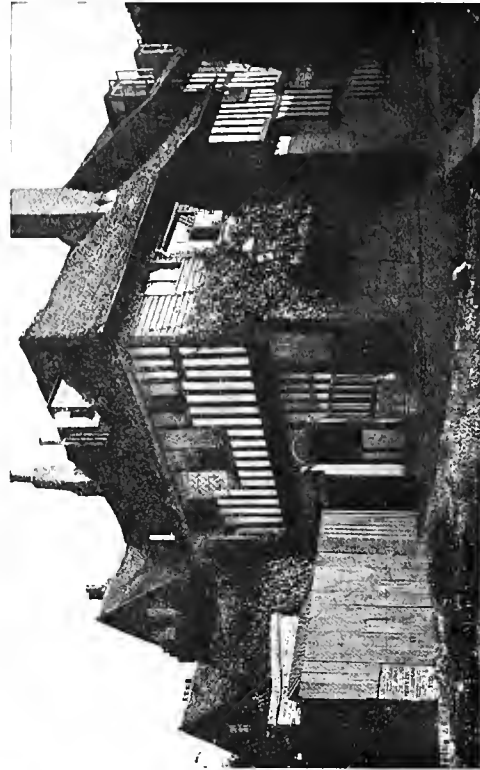
THE INN FROM THE STREET.



CAEN STONE TUDOR FIREPLACE.



PANELLED ROOM AND BRICK FIREPLACE.



HALF-TIMBERED TREATMENT.

"THE MERMAID" HOSTELRY, RYE, SUSSEX, DATING FROM 1450.

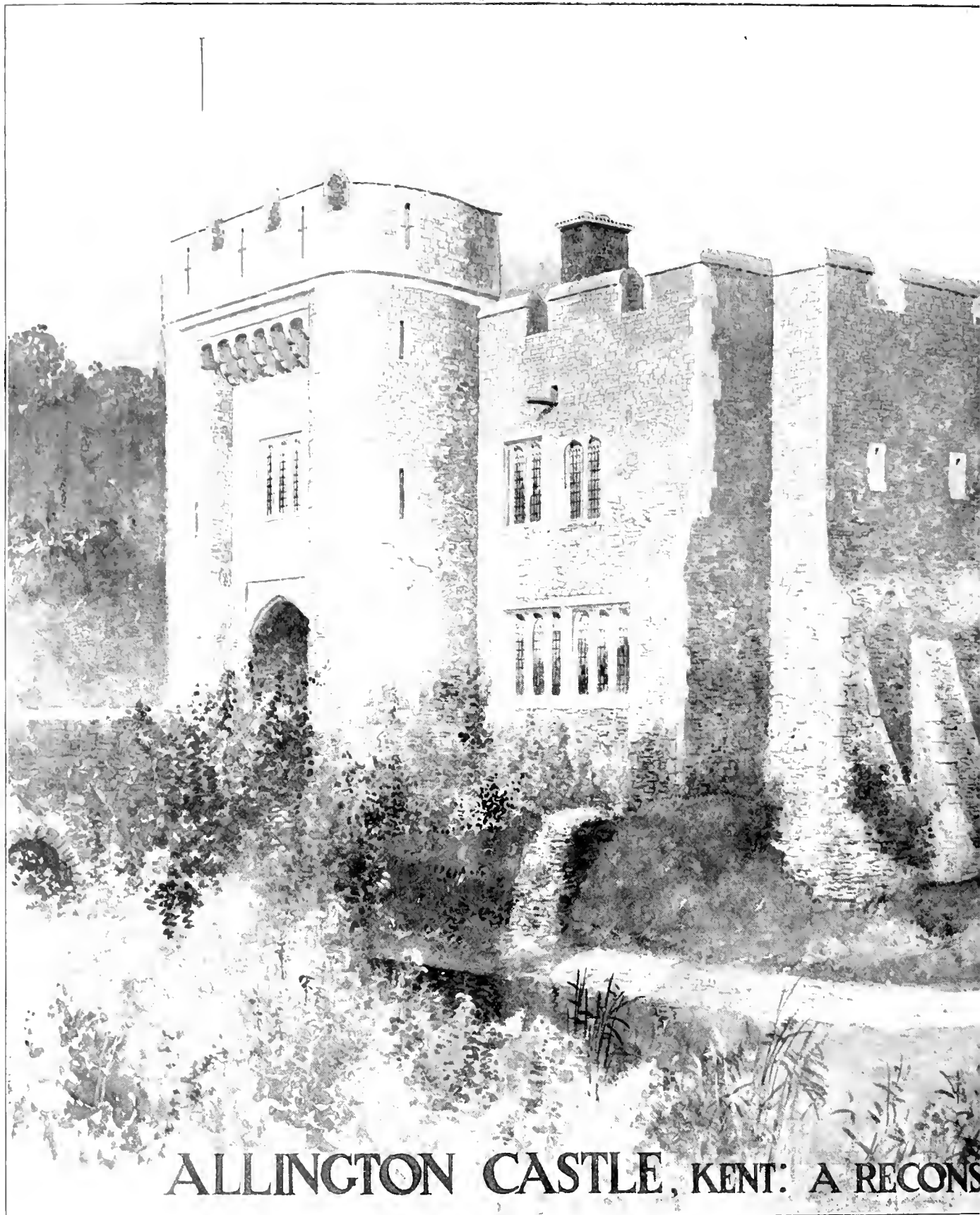
Auction Sale October 14, 1919, by Messrs. Hampton and Sons.

THE BUILDING NEWS, OCTOBER 17, 1919.



WAR MEMORIAL CHAPEL, DEAN CLOSE SCHOOL, CHELTENHAM.
MR. LEONARD W. BARNARD, F.R.I.B.A., Architect.

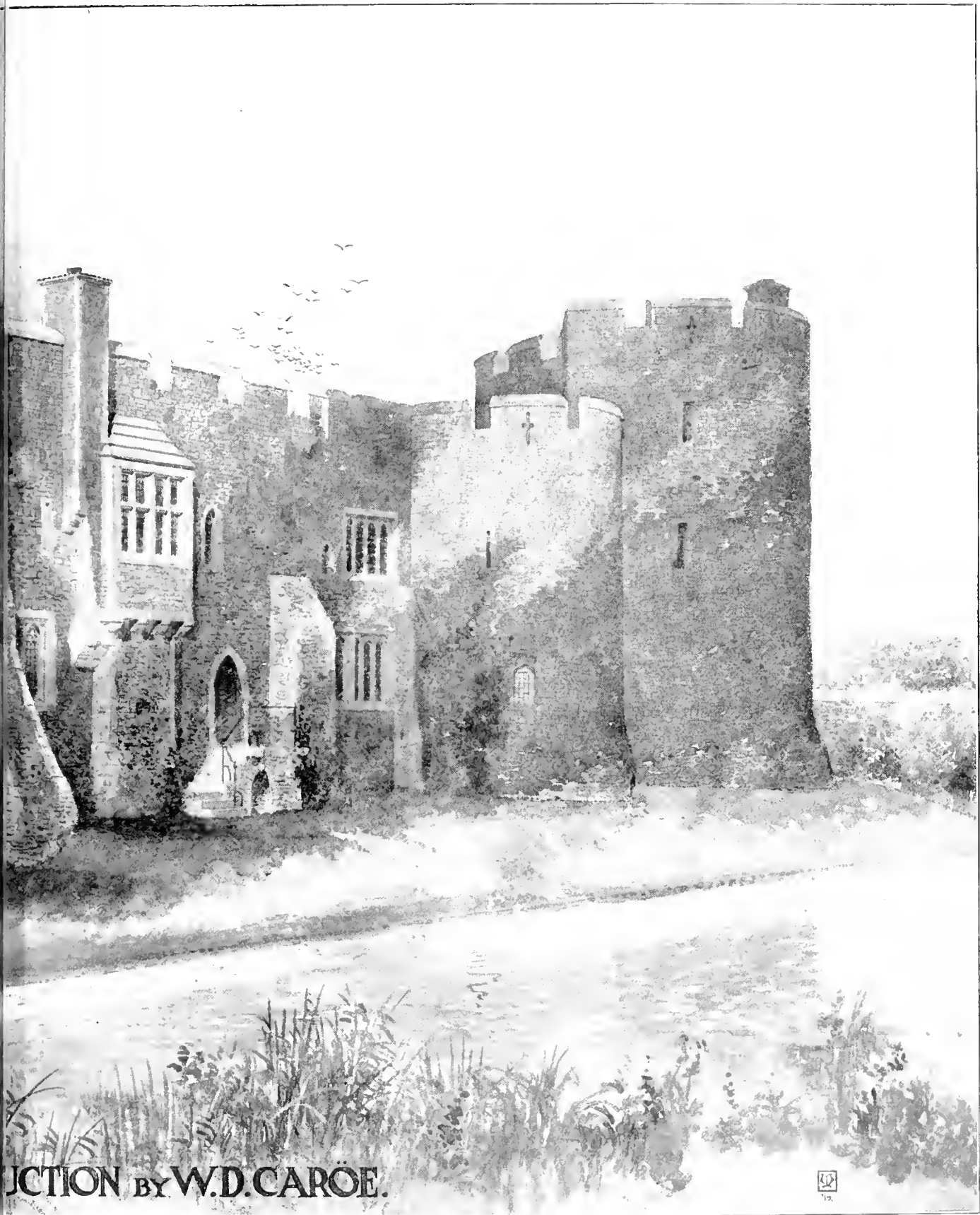




ALLINGTON CASTLE, KENT: A RECONS

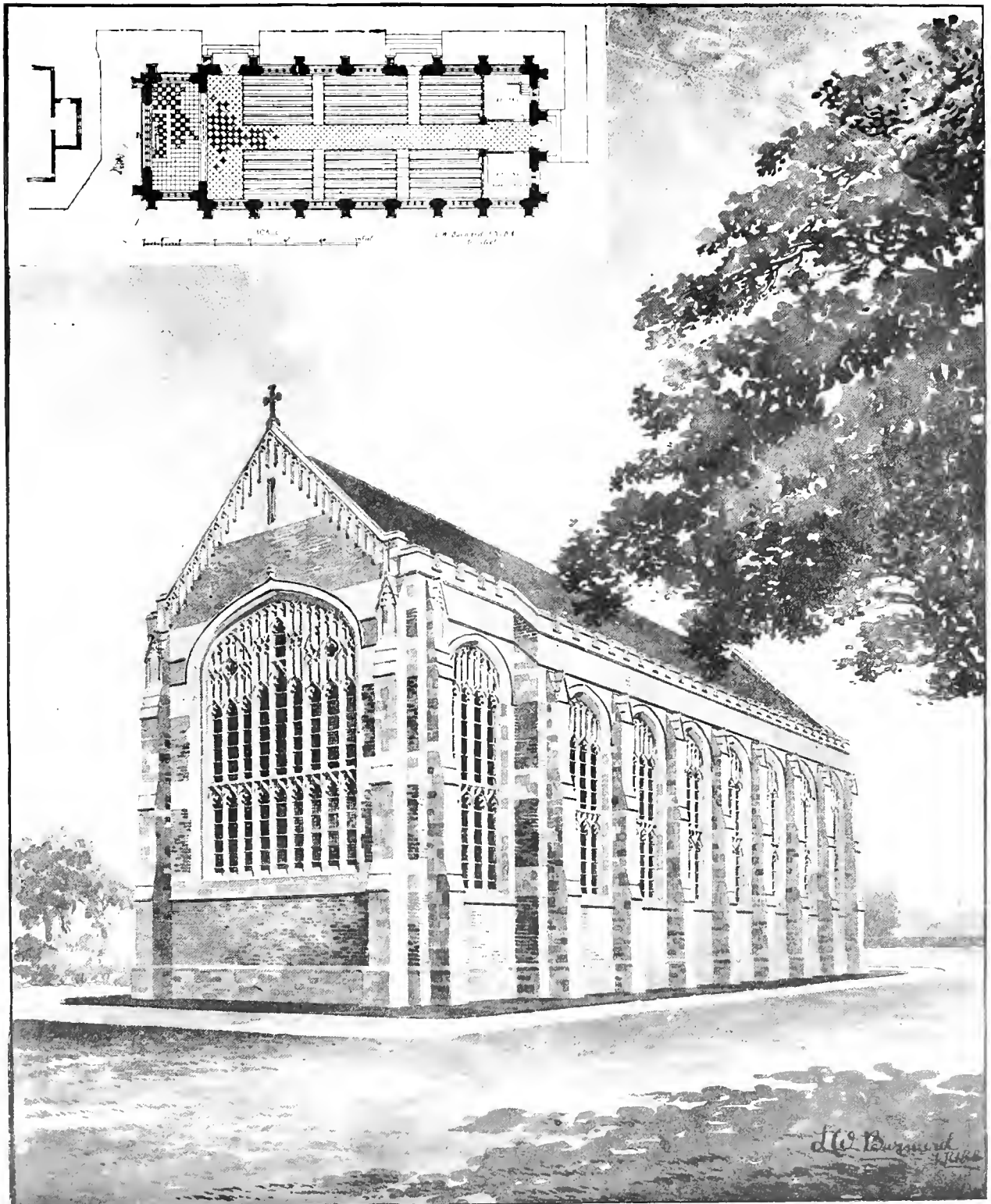
RECONSTRUCTION OF ALLINGTON CASTLE
MR. W. D. CAROE, M.A. CAPT.

OCTOBER 17, 1919.



NEAR AYLESFORD, MAIDSTONE, KENT.
F.S.A., F.R.I.B.A., Architect.





WAR MEMORIAL CHAPEL, DEAN CLOSE SCHOOL, CHELTENHAM.
Mr. LEONARD W. BARNARD, F.R.I.B.A., Architect.

THE BUILDING NEWS, OCTOBER 17, 1919.



WEST PORTALS, CHARTRES CATHEDRAL.
From a Water-Colour Drawing by MR. BARRY PITHEAK, A.R.B.A.
From the Royal Society of Painters in Water Colours, 1919.



WEST PORTALS, CHARTRES CATHEDRAL.
From a Water-Colour Drawing by MR. BARRY PILLAR, A.R.B.A.
From the Royal Society of Painters in Water Colours, 1919.



BRITISH HOUSE BUILDING METHODS.*

By SIR CHARLES T. RUTHEN, O.B.E.,
F.R.I.B.A., M.S.A.(Hon. Examiner and Member of the Council
of the Society of Architects.)

PRELIMINARY.

Shall they remain as in the days before the great war, or must new methods be adopted?

In the days preceding the dark days of August, 1914, the housing problem was considered and discussed in the light of the regular and stereotyped British fashion in house building, and he would have been bold indeed who would have suggested a breaking-away from the orthodox in the provision of homes for the people.

The mediums for house building in those days were stone, bricks, and terra cotta, and during the latter days concrete; and the bare suggestion that timber should be utilised for the main body of the structure was never so much as whispered by the most ardent reformer.

The vital urgency and the crying need for rapidity of solution were fully grasped only by the student, who alone appreciated the character, immensity, and complexity of the problem.

It must be generally admitted that the history of the world, in some matters, moves but a day in some centuries, yet at other times the history of the world moves centuries in a day. In pre-war days the history of the British Isles in the matter of housing the people moved but a day in generations; but since the outbreak of the great world-struggle history in the matter of housing has moved, as it were, generations in a day.

In other matters, the history of the world has moved centuries in a short period of five years, but my duty at the moment is to deal only with the matter of housing.

INTRODUCTION.

A few words upon the gigantic character of the housing problem as now presented to the peoples of the British Isles.

The question generally of the shortage of housing accommodation in this country, before the outbreak of war, has been put for ward during the years preceding that great world calamity by able exponents of the evil of defective housing and of overcrowding. It is, therefore, only necessary for me, incidentally, to touch upon that phase of the problem.

It will be, of course, appreciated that the complete cessation of house building for the period 1915 to 1918 has produced what can only be described as a disastrous state of affairs.

The normal supply of houses in pre-war days in England and Wales (taking the period 1900 to 1910 as a normal period), of less value than £20 per annum, it is recorded was 80,000 per annum. Adopting this figure as representing the minimum number of houses which should be built per annum to provide for the growth of the population (as distinct from the number of houses required to be built to rehouse overcrowded persons and persons dispossessed from houses unfit for human habitation), then the accumulated deficiency for the years 1915, 1916, 1917, and 1918 must be reckoned at the end of 1918 as 320,000.

The armistice was signed on November 11, 1918, and although eleven months have passed and the entire resources of the State have been directed towards the solution of the difficulty, certainly not more than 10,000 houses are to-day in various stages of progress, and it would appear generous to suggest that by the end of this year not more than 6,000 houses will be ready for occupation.

We are, therefore, faced with the position that at the end of this year the total number of houses required to make up the normal supply will be 394,000.

Again, making the very generous estimate that it will take five years in which to recover the accumulated shortage produced by five years' dislocation of the building industry, it is obvious that a further 400,000 houses will be required, or a total of 794,000 houses by the end of 1924.

These figures show that during the next five years it will be necessary that 158,800

houses shall be erected per annum if the housing problem is to be placed in exactly the self-same position as it was in 1914.

It cannot be suggested that I am over-doing my presentation of the present grave position if I refer shortly to the serious and pressing problems handed down from the years of neglect preceding the outbreak of the war. These problems must, I fear, be left unremedied in the meantime, for it is impossible to destroy the slums and condemn unsuitable dwellings until better housing accommodation is available for the dehousing persons.

I think, however, that, in order that the whole problem may be faced boldly, the actual shortage of housing accommodation existing in 1914 should be considered. If this be done, to the enormous total of 794,000 must be added at least 250,000, as being the minimum figures representing the actual accumulated deficiency due in pre-war days to the failure of the supply to meet the demand.

It is beyond question that the number of houses built annually for very many years before the war did not suffice to meet the normal needs of the population, with the result that, prior to the war, the shortage of suitable housing accommodation was fixed by authorities upon the subject at quite 400,000, of which number 120,000 were for rural districts.

Accepting, however, the quarter million before stated, and without considering the question of the slums and unsuitable dwellings, we must, I think, accept the proposition that if the housing problem is to be handled in any degree satisfactorily during the next five years a grand total of 1,044,000 houses must be erected, or well over 200,000 per annum. In other words, $2\frac{1}{2}$ times the normal pre-war supply, when all agencies were at work to provide houses for the people.

I need scarcely draw attention to the fact that pre-war building agencies are all or nearly all at the moment "out of the field," so that unless matters alter the provision of houses must be left in the hands of the State, local authorities, public utility societies, and similar agencies.

Calculating that 25,000 bricks are required per house, it will be seen that 5,000,000,000 will be required per annum (or an equivalent of some other material) to cope with this problem within the period mentioned. Further, it must be pointed out that the building industry is the third greatest industry in the United Kingdom, and no less than 903,202 workmen in England, Scotland and Wales are employed in it.

If, therefore, the normal supply of houses in pre-war days was 80,000 per annum, and if it is admitted that other important industrial work is to be undertaken during the coming five years, I cannot see that it is possible for the ordinary resources of the country to be equal to the colossal demand of 200,000 houses per annum.

In a Government report issued not long ago it was stated that if 300,000 cottages were to be erected within the first year after the war (I think it is now appreciated that such a performance is quite impossible) 5,431,390,148 bricks would be required.

Assuming that 25,000 bricks are required to build a house containing what is now considered the minimum accommodation, and that approximately that average number were used per house in pre-war days, then the normal supply in pre-war days (80,000 houses) would be 2,000,000,000 bricks.

Another Government report provides the following interesting information with reference to the output of bricks, viz. —

Approximate production of bricks in 1917	1,052,246,000
Average annual output for years 1911-12-13	2,805,748,000
Estimated maximum output with existing plant, provided sufficient labour is available	3,985,636,000

It will, therefore, be seen that this latter figure is approximately 1,000,000,000 short of the number of bricks required to build 200,000 houses per annum, calculating that an average of 25,000 bricks will be required to erect each house.

All other work must cease for the time being, or $2\frac{1}{2}$ times the workmen engaged in pre-war days upon house building must be found to meet the demand. Even if bricks, stone, concrete, and other similar material

were produced, I feel convinced, particularly with the experience of the past eleven months, that fifteen, if not twenty, years will be required before the housing shortage will be overtaken.

Is it in the interests of the State? I put it still higher. Will the fabric of the State stand the strain of popular feeling, if even five years must elapse before this vital problem is solved?

Let us consider for a moment the effect of the housing conditions in this country to-day. I think my figures of 644,000 must be accepted as the present deficiency of houses for the people. That is to say, 394,000 (to the end of 1919), due to the dislocation of the building industry, added to 250,000, the shortage before the outbreak of the war. Then place side by side with this statement, the allied one, that the average size of a family in this country is five persons—4.99 to be exact, and we find that 3,220,000 persons, one-thirteenth of the population of England and Wales, are improperly housed. In addition, it must be pointed out that certainly 7,000,000 persons are living in tenements of three rooms and less.

We have therefore presented the appalling fact that more than one-quarter of the population are, in the light of modern education and thought, improperly housed.

I repeat, will the fabric of the State stand the strain very much longer?

I do not propose in this paper to deal with the effects of defective housing conditions upon the national life, industrial and economic. That the effects are disastrous and cumulative I think is admitted by persons of all shades of political and social opinion.

I have just recently been looking up some facts in connection with housing, and I came across the statement that "the provision of houses, like the provision of other articles, is a business proposition." This sentence, which it is only fair to state was written before the war, sums up the entire position, and the slow but certain piling up of arrears in the supply of homes for the people has been due to this argument. The argument is in part correct, and in part it is incorrect.

Workhouses have been built to house people, but not all people; asylums and gaols have been built to house people, but, thank goodness, not all people; yet both are "business propositions."

In the broad sense it may be argued that the establishment and maintenance of such institutions are financial propositions, if not business propositions, in the sense meant by the writer of the sentence above quoted.

The provisions of a pure water supply and a good drainage system are also business propositions, and from the community point of view good investments.

All these arguments suggest that there are duties that should be undertaken by the community, and leave it to be assumed that there are others that may be undertaken by private enterprise.

It is now open to very little doubt that in the matter of housing there has been for at least twenty years or more a duty which has been consistently shirked by the community, and the argument that such work was not the duty of the local authority was advanced in support of the contention that the provision of houses was a "business proposition," and as such should be undertaken by the community.

I have contended for many years that the provision of good, healthy homes for the people, those particularly for whom private enterprise did not, and in fact could not, cater, was in the highest sense a business proposition, but unfortunately there has always been too much book-keeping and too little humanity in the community management of affairs.

To-day we are suffering for this hopeless lack of broad vision, and we find now that what a few paltry years ago was looked upon as being the especial preserve of private enterprise has floated irresistibly into the realm of community duty, and, from the narrow pre-war actuarial point of view, into a hopeless "business proposition"; yet in the national sense one of the greatest business propositions from a real investment point of view with which this country has ever before been faced.

* Read before the Society of Architects, October 16.

For most things that are required we rely and have relied, and rightly so, upon the law of supply and demand. It has always been found that if there is a demand for an article a supply is almost always forthcoming. In many cases the supply has been actually greater than the demand.

One is naturally inclined to demand explanation why this law does not successfully operate in regard to houses. Why do not men, and why have not men, come forward and provided houses as others have provided boots, clothes, watches, toys, and other things?

We must look for an answer to the law of political economy. Demand means demand at a price, and likewise supply means supply at a price.

There is and has been a great supply of boots and other articles, but it has been a supply at a certain price, and this price is and has been something more than the cost of production.

The real demand has never been for houses, but for houses at a certain price, and good houses could not be provided at that price.

For houses at the price at which they could be built there was only a limited demand, and in this way the original difficulty was created, and events during the last five years have considerably accentuated that difficulty.

(To be continued.)

IRISH ARCHITECTS' FEES.

The following resolution has been passed by the Council of the Royal Institute of the Architects of Ireland on the subject of professional charges:—

"The Council desires to place on record its opinion that the time has come when architects' fees should be increased for the following reasons:—

1. The increase in an architects' office expenses, including higher salaries to the staff, and greater cost of all office charges.

2. The grave restrictions on capital expenditure on buildings arising out of the abnormal rise in the cost of materials and labour.

3. The additional duties which the architect has to perform and the heavier responsibilities which he has to bear owing to the altered condition of the building trade and the inclusion in building contracts of all kinds of specialised work which necessitates a far higher standard of scientific professional training than was required in the past.

"The Council has carefully considered the revised scale of professional charges issued by the Royal Institute of British Architects this year, and is of opinion that the proposed conditions of engagement and scale of fees embodied in the publication are reasonable.

"The Council is of opinion, however, that the adoption of this scale of charges by our Institute would impose upon all members the moral obligation not to work for smaller fees than those contained in the new scale.

"The Council cannot, therefore, recommend the adoption of the new scale by this Institute as a body, although they see no reason why architects who so wish should not charge these fees, to which, in the Council's opinion, they are fully entitled.

"The Council desires to remind the members that it has always been a point of honour that no member should work for smaller fees than those which were adopted by our Institute in 1901. The Council confidently anticipate that the members will continue to adhere to this practice, whilst at the same time they reiterate their opinion that the revised scale and conditions of employment now issued by the Royal Institute of British Architects are equitable and reasonable, and express an earnest hope that employers will recognise the fairness of the revisions and adopt this scale as the basis of the conditions of engagement of their architects and of the fees to be paid to them."

Mr. William B. Pullar, formerly a director of the firm of Robert Pullar and Sons, dyers has died at Bridge of Allan at the age of seventy-six. He was a friend of John Ruskin, with whom he had much correspondence.

Correspondence.

LABOUR UNREST IN AMERICA.

To the Editor of THE BUILDING NEWS.

Sir, Your copy of the *American Architect* is delayed and other issues may be delayed because of a strike of part of the printing trades of New York City.

This strike has been called by two local unions and is not sanctioned by the International Union, of which they are a part. For this action these local unions have had their charters withdrawn by the international bodies and new unions are being formed.

The demands made were for shortening the basic work week from 48 hours to 44 hours and increasing the basic wage from \$36.00 to \$50.00 per week. Coupled with these demands as to hours and wages was the definite statement that the local unions did not propose to make any contracts, for a contract, if lived up to, would prevent the making of further demands at the time and pleasure of the union officials.

The printers and publishers against whom this strike was called offered to leave to fair arbitration the demands made, but the leaders of these unions absolutely refused arbitration of the hours of labour. They refused this, despite the fact that an agreement had been made between their international organisations and the employers for these hours of labour to become effective May 31, 1-21.

Labour unrest is country-wide, and much of this unrest is caused by a small minority of radical or insurgent men who are seeking to secure their immediate demands without thought to the effect on the particular industry or the country at large.

The building industry has suffered from this condition as much as any other, and we, therefore, feel that those we serve will approve our course in refusing to accede to the unwarranted demands mentioned above.

We trust that it will not be long before reason will rule in this dispute, but in the meantime your paper may be delayed. We ask your patience and indulgence and feel certain of your moral support.

Publishers of the *American Architect*.

E. J. ROSENCRANS.

President.

243, West 39th Street, New York,
October 1, 1919.

STATUES, MEMORIALS, etc.

PETERBOROUGH.—A meeting of the parishioners of Peterborough St. Mark's Parish and others interested was held in the Parish Room last week to consider War Memorial schemes. It was decided that the present chapel at the south of the choir be transformed into a chapel that could be used for small services. The committee appointed to go into the scheme proposed there should be two memorials. At St. Barnabas' it would take the form of a tablet on the north wall of the church, with the names of the fallen, and would cost from £25 to £40. Anything subscribed over what was required would go towards something which would be embarked upon later, such as a clubroom. He personally would like to see the churchyard there laid out for something like bowls and tennis. With regard to the St. Mark's scheme, Mr. Baynes had very kindly presented them with a carved tablet in oak, which they thought would adorn part of the north wall of the church, and if they had had all the names it would have been replaced long ago. After considering various proposals, the committee had adopted the scheme to transform the present chapel at the south of the choir into use as a chapel, and he thought it would serve as a very worthy memorial. The design, which was on view, is by Mr. Cecil Hare, and it is estimated the cost would be from £350 to £450.

Ashton Town Council last week accepted the resignation of Mr. J. T. Earnshaw, after four years' service as borough surveyor. The assistant surveyor, Mr. John Rowbotham, has been appointed to the post.

PROFESSIONAL AND TRADE SOCIETIES.

AUCTIONEERS' AND ESTATE AGENTS' INSTITUTE.—Mr. W. White Sanderson, of Newcastle-on-Tyne last Friday night delivered at the Auctioneers' and Estate Agents' Institute the Presidential address. He spoke with pride of the Institute's war record. Out of a membership of 3,200 1,025 served and 123 gave their lives for the country. He had designed a memorial scroll which was now being reproduced in bronze, and which he would present to the Institute. Before considering the future, it would, he continued, be well, perhaps, to deal with results achieved. On July 11, 1919, the council decided that after January 1, 1922, admission to the Institute, save in most exceptional cases, should be by examination alone. This resolution would add dignity to their profession. The College of Estate Management might now be regarded as an accomplished fact, and it was expected that its first session would open next year, with Sir William Wells as the first president of the College. They had in hand over £20,000, and a further £20,000 in view. The time had not yet arrived to assess at its full value the work of Sir William Wells. Mr. Sanderson subsequently read the King's Appeal to the nation with regard to the employment of disabled soldiers and expressed the hope that the names of many members of the Institute would be found on the King's National Roll. (Hear, hear.) The arrangements for the provision of a new London Auction Mart had received the serious consideration of a special committee. The continuance of the control of meat and live stock necessitated the retention of about 70 live-stock auctioneer members as "chairmen of sections," and altogether about 800 live-stock auctioneers were assisting in the marketing and distribution of home-fed cattle and sheep for food. He paid a warm tribute to Mr. Charles Harris, their late secretary for thirty years, and said that they might count themselves fortunate indeed in having secured the services of Mr. E. H. Blake. Reconstruction in the Institute's family affairs was just as important, just as urgent, as any of the matters to which he had referred. "Let us welcome as comrades," he said, "all women of capacity wherever their gifts can be fruitfully employed." A vote of thanks was proposed by Sir William Wells, seconded by Mr. J. G. Head, and carried unanimously.

THE ROYAL INSTITUTE OF THE ARCHITECTS OF IRELAND.—A meeting of the council was held on Monday last, the President, Mr. W. Kaye-Parry, F.R.I.B.A., in the chair. There were also present—Messrs. F. Hayes, G. L. O'Connor, R. Caulfield Orpen, E. Bradbury, L. O'Callaghan, G. P. Sheridan, A. G. C. Millar, B. H. Byrne, A. E. Murray, and H. Allberry, Honorary Secretary. A letter was read from the Housing Department of the Local Government Board, stating that Messrs. A. E. Murray, F.R.I.B.A., and G. P. Sheridan, A.R.I.B.A., had been selected as representatives of the Institute on the committee appointed to form a panel of architects for housing schemes; also from the Ministry of Labour in regard to the training of ex-service men in the profession of architecture. Several applications for membership were considered. The following resolution was passed unanimously, and the honorary secretary was directed to forward a copy to the Chief Secretary for Ireland and Dr. Coey Biggar:—"That this council views with extreme concern the fact that on the list of names published as forming the Council of the Ministry of Health in Ireland, no representative of the architectural or of the engineering profession is included. It is hardly conceivable that the public interest can be efficiently served without the technical knowledge which qualified representatives of these important professions can bring to bear on the many problems relating to public health which it will be the function of this Minister to investigate." The house list for the council for 1920 was drafted, and the proceedings terminated.

THE INSTITUTION OF CIVIL ENGINEERS.—The Council have issued a copy of the first number of the new series of "Abstracts of Papers in Scientific Transactions and

Periodicals" which they have recently decided to issue in pamphlet form as a publication distinct from the minutes of proceedings, instead of having them printed—as they have been since 1875—as "Section III." of the "Proceedings." This arrangement will render the Abstracts available more promptly and regularly than was practicable when they were issued with communications which, owing to the situation of many of the contributors, necessarily occupy longer in publication. The numbers will be compiled and printed quarterly. Name and subject indexes will be given in each number, and it is intended that these indexes shall be printed also in the minutes of proceedings, so that the latter will contain complete references to all engineering information published by the Institution. The general aim of the Abstracts is, as formerly, to give brief summaries of the more important engineering and other scientific information contained in current periodicals published outside the United Kingdom, the articles abstracted being selected by experienced engineers.

THE ROYAL TECHNICAL COLLEGE, GLASGOW.—The syllabus of the Glasgow Royal Technical College Architectural Craftsmen's Society for the Session 1919-20 announces the following fixtures:—October 10: President's Address, by Mr. James Muir; October 24: "Notes on Renaissance Architecture in England," by Prof. C. Gourlay; November 7: "Housing," by Mr. A. Davidson; November 21: "The Roof," by Prof. A. M. Gibson; December 5: "Army Experiences," by "Our Members"; January 23: "Building By-Laws," by Mr. W. A. Macartney; February 6: "The Scottish Housing Act," by Messrs. T. G. Gilmour and W. H. Baxter; February 20: "Interior Architecture in Ships," by Mr. A. B. Mitchell; March 5: "Pneumatic Foundations," by Mr. W. Burnside.

OBITUARY.

We regret to record the death, on Sunday morning, October 5, of Sir Charles Edward Heley Chadwyck-Healey, who had been intimately associated with the *Engineer* for the greater part of his lifetime. Sir Charles was the only son of the late Edward Charles Healey, who founded the *Engineer* in 1856. He was called to the Bar in 1872, and after establishing a great reputation as a junior counsel, he became a Queen's Counsel in 1890, but retired from active practice in 1893. The sea had always had a fascination for him, and it was in connection with it that he performed a public service which brought him first the honour of Knight Commander of the Bath, and then, in this year's war honours, that of a baronetcy. This service was his long and close connection with the Royal Naval Volunteer Reserve, a body which performed in the war invaluable duties, and which provided the Navy with a reserve on which it was only too glad to draw. Sir Charles was the first chairman of the administrative body, a position which he surrendered in 1914 in order that younger men—he was then nearly seventy—might bring their energy and enthusiasm to the fore. Sir Charles performed also another war service of great utility by fitting out at his own expense the Queen Alexandra, a hospital ship of the Royal Mission to Deep Sea Fishermen, as a hospital ship of the Navy. He continued to command her till she was discharged from the Fleet a few months ago. We may mention that he was one of the Admiralty arbitrators on the Admiralty Transport Arbitration Board. He is succeeded in the title by his eldest son, Gerald Edward Chadwyck-Healey, who, as many of our readers will recall, was appointed Director of Materials and Priority at the Admiralty in succession to Sir Robert Horne when Sir Robert was appointed Third Civil Lord.

Mr. Sydney Tatchell, F.R.I.B.A., of 25, Queen Anne's Gate, has entered into partnership with Mr. E. H. Bouchier, F.R.I.B.A. (Messrs. Bouchier and Galsworthy), of the same address. Their practice as architects will be carried on under the style of Messrs. Bouchier, Tatchell, and Galsworthy, at 25, Queen Anne's Gate, S.W.1.

Building Intelligence.

NECHELLS.—The construction of the new permanent electricity station at Nechells, undertaken by the Electric Supply Committee of the Birmingham City Council to meet the increasing demand for current, is making good progress. The concrete piling work on this site is approaching completion, and the construction of the superstructure is also well in hand. This superstructure embraces a steel framework. It is hoped that the erection of the superstructure will have progressed sufficiently by next April to enable the committee to introduce the requisite plant, and if that is so, it is believed the installation of the first set will be ready in time for the winter load of 1920. Contracts have been placed for plant to the value of about £120,000. The first order was given to the Davenport Engineering Company for seventeen wooden cooling towers at a cost of about £60,000. At the Summer Lane station the cooling towers, with one exception, are made of steel, but at the temporary station at Nechells they are of wood, wooden towers, it being found, do not wear out so quickly, and when their renewal becomes necessary their replacement is very much cheaper than in the case of steel towers. Another contract was for telfer coal handling plant, the price being about £30,000, and it was given to the Mitchell Conveyor Company. The third contract was for machinery, and principally transformers, the cost also being about £30,000. The transformers will be supplied by Ferranti, Limited, for the permanent station at Nechells and the sub-stations at Summer Lane and Bournville.

COMPETITION.

BROMBOROUGH LAY-OUT PLANS.—In this competition the premium of £50 has been awarded to Messrs. Kelly, Clarke, and Poole, of Liverpool; placed second, Messrs. Rees and Holt, of Liverpool; placed third, W. W. Kenworthy, Wallasey, Cheshire. There were twenty-six plans sent in, and Mr. F. E. G. Badger, A.M.I.C.E., Director of Housing to the Liverpool Corporation, in his report states: "I congratulate many of the competitors for the very beautiful designs submitted. It is apparent that the design submitted by 'Lotos' is the result of careful study of the needs of the community both present and future, and I have no hesitation in awarding the premium to the depositor of that plan." Competitors may have plans returned on sending in to the Clerk to the Council, Bromborough, stating name and present address, also motto on plan. The deposit of 10s. will be refunded at the earliest possible date.

The roof of St. Helen's, Bishopsgate, is undergoing restoration consequent on the discovery that a large part above the choir is badly worn-eaten. Some months ago a parlin about 12 feet in length fell. Pending the restoration the roof has been sprayed with a special insecticide.

A freehold business site in Queen Street, Cardiff, was sold by auction yesterday for £44,700. The existing block of buildings will be pulled down and new business premises erected. The price paid works out at the rate of £90,000 an acre, the highest rate ever reached in Cardiff.

We regret to record the death, at Cromwell's House, Huntingdon, of Mr. F. B. Thackray, head of the firm of F. B. Thackray and Co., Limited, builders and contractors, and a member of Huntingdon Corporation. The death of Mr. Thackray is a great loss to the town, and took place after only a fortnight's illness. He was fifty-eight years of age, and the eldest son of the late Mr. Geo. Thackray.

A serious situation has arisen in the West of Scotland steel trade in consequence of a strike by bricklayers in the steel works. The bricklayers demand an advance of 43s. per hour, the compromise offered by the employers has been rejected, and efforts to have the dispute referred to arbitration have also failed. Several firms have intimated that they will be compelled to close down their establishments soon unless the bricklayers return to work next week. A general stoppage would involve between 30,000 and 40,000 workers.

Our Office Table.

The "Financial Times," the leading daily journal of finance, 72, Coleman Street, London, E.C.2, has just issued "The Financial Times Investments Account Book," which has been specially designed to meet the requirements of all who have money invested in stocks and shares. The book will supply a "long-felt want." It provides in a simple and accurate form all facilities for a record to be kept of the cost, when interest or dividends are due, when paid, rate, and, an important thing at the present time, the amount and rate in £ of income-tax deductions. Tables are also given showing yield on £1 shares bought at $\frac{1}{2}$ to £2, and $2\frac{1}{2}$ per cent. to 15 per cent. dividends, yield on £100 stock bought at £25 to £200 and at $2\frac{1}{2}$ per cent. to 8 per cent. interest. To assist in investing in Government securities, brief necessary particulars are given of principal British Government loans. The book consists of 120 pages of a handy size and the price of same is 8s. 6d. nett, post free 9s.

At a special meeting of the Shrewsbury Town Council the report was submitted of the Housing Committee stating that tenders had been obtained for the erection of 164 houses and for the drainage work in connection with the Longden Road scheme. The acceptance of the tenders had been approved by the Housing Commissioner on behalf of the Ministry of Health, subject to such modifications as may be recommended by the Ministry. It was anticipated that economies would be effected by the Ministry as the works proceeded. Without taking such economies into account the estimated gross cost was £162,634 and the average cost per house £992. The contractors were:—Messrs. Treasure and Son, Ltd., 136 houses, £122,217; Mr. W. E. Deakin, 22 houses, £19,877; Messrs. Henry Price and Son, 6 houses, £5,471; Messrs. Treasure and Son, Ltd., drainage, £2,595; total £150,160. Cost of land, legal charges and construction of roads and sewers, £10,474; extra office staff, bills of quantities, printing, supervision, etc., £2,000; gross total, £162,634. The committee recommended that the tenders mentioned be accepted. A long and somewhat hostile discussion ensued, and the further consideration of the report was adjourned, one councillor declaring that £32,000 could be saved.

Following the recent address of Mr. T. P. Rees from the presidential chair of the Liverpool Architectural Society, which we gave last week, steps are being taken, we understand, towards the formation in that city of a joint committee representing the architects, the master builders, and the building trade operatives. The objects of such a body would be to avoid misunderstandings and to expedite constructional work. We hope this scheme of co-ordination will work advantageously.

At a moment when the use of our roads is so much under discussion it is of interest to note that it is just a hundred years since John London M'Adam, who invented "macadamising," published his "Practical Essay on the Scientific Repair and Preservation of Roads." As a result of a Parliamentary inquiry the ideas of his book were adopted by the public authorities, and in 1827 he was appointed general surveyor of roads. In his inquiries into roads he travelled thirty thousand miles and spent over £5,000. Parliament repaid him for his expenses and gave him a gratuity. He was offered a knighthood but refused it.

An International Congress of workmen engaged in the building trades was held at Amsterdam last week. The British delegates were not present, having been unable to reach Holland owing to the railway strike. Generally speaking, the Congress was influenced by the German delegates, who were on several occasions involved in disputes with the French and Belgian delegates. When it decided to establish the seat of the League in Germany, the French and Belgian delegates left the Congress. The Dutch delegates endeavoured to smooth things over by suggesting Holland for this purpose. The

German delegates were unwilling to agree to this.

"The Painters' Pocket Book," by Arthur Seymour Jennings (London, Thomas Tofts, 95 and 94, Chancery Lane, W.C.2, 4s., post free 4s. 3d.), of which twenty thousand copies have been sold, has reached a fourth edition. It now numbers over 250 pages, and yet will slip easily into the pocket. It has been revised throughout, particularly the section dealing with prices for painters' work, which now are just double those current before the war. The Dictionary of Terms has been revised, and new entries and new plates added. The practical tradesman and the amateur alike will find the pocket book an invaluable help and the architect and builder will welcome its assistance in preparing his specifications, or undertaking contracts in which this ever-increasing branch of the building industries figures more and more largely.

To relieve the present great congestion in chemical laboratories at Edinburgh University an important extension scheme is being undertaken. Ground has been acquired on the southern outskirts of the city, in the vicinity of Blackford, where work will be begun almost immediately, and to which the entire chemical department will in due time be transplanted. This scheme is estimated to cost a quarter of a million sterling. Another development which is calculated to still further ease the situation in the present University buildings is the proposed establishment, in memory of Lord Lister, of a great institute for pathological and bacteriological teaching and research, to which the present University departments will in due time be transferred. In this matter the University is proceeding jointly with the medical corporations of the city and certain other bodies. The scheme has now reached a definite stage with the acquisition of a site for the Institute in close proximity to the Royal Infirmary. It is estimated that this scheme will also cost a quarter of a million pounds, and the money will probably be raised by public subscription.

At the meeting of the Lincoln City Council last week the Housing and Town Planning Committee reported an interview with Sir Kingsley Wood, M.P., and correspondence which had passed, and stated the committee had resolved that the Town Clerk be instructed to communicate with the Ministry of Health, calling attention in the strongest possible terms to the scandal occasioned by the present position of the Wragby Road houses, which had remained in the same uncompleted state for some months, and to inform the Ministry that the committee considered that immediate steps should be taken to complete the houses and render them fit for occupation, and that the committee would be prepared, if necessary, to recommend the council, subject to satisfactory financial arrangements being made by the Government, to take over and complete the houses themselves. The Mayor at some length traced the history of the scheme. Referring to the interview with Sir Kingsley Wood, the Mayor said he told him the time had come for plain speaking, and that they had better be honest with one another. He moved the adoption of the minutes. The motion was carried.

The *Giornale del Genio Civile*, Rome, in a report on the examination of samples of mortars from the Aden reservoirs and from the Pyramids, says the mortar taken from the Pyramids would appear to have been composed of fat lime, burnt clay, detritus, and brick-dust. This is similar to the mortar made to-day in Egypt with *hamra*, a finely-ground burnt clay, which is much used in concrete. Results of tests of such mortar at various ages are given. The Aden reservoirs, the oldest masonry reservoirs in service, were constructed with a mortar of fat lime, volcanic ash of the peninsula, and broken brick. For small works in North Africa it may therefore be possible to use local materials.

A number of historians and antiquaries, visiting Highgate on Saturday under the auspices of the London and Country Rambling Society, were interested to hear that the famous old mansion known as Cromwell

House, had, after all, no connection with Cromwell. The ownership has now been traced back to about 1600, which is probably the date of the magnificent staircase with its carved military figures—one of the finest of the kind to be seen in London. The initials carved on a mantelpiece once supposed to be those of Cromwell and Ireton, are really those of a family named da Costa, who had the place in 1676.

An exhibition, under the title "Beautiful Richmond: Past, Present and Possible," will be held at the Castle Rooms, Richmond, from October 21 to 24. Its object is to promote the development of Richmond, especially as regards the housing of the people on sound lines by bringing before the minds of the citizens the past history, present conditions and future possibilities of their town, so that they may take advantage of their opportunities to the greatest extent. The exhibition will include a collection of pictures and maps showing historic Richmond at various stages, the "civic survey of Greater London's" Richmond survey, a series of sketches showing possible improvements of mean streets and neglected corners, accompanied by photographs of the same places as they now are, and plans and sketches for a Richmond Improvement Scheme on Town Planning lines. Lantern lectures will be given by Professor Adshead, Mr. Raymond Unwin, Mrs. Stewart, Mr. H. V. Lanchester and Mrs. Fraser Davies.

LEGAL INTELLIGENCE.

MOVING A PULPIT.—Sir F. G. Newbolt, K.C., Chancellor of the Diocese of Exeter, has delivered a judgment of considerable interest. It had reference to a petition by Mr. J. B. Gidley, whose ancestors built the Gidley aisle of Winkleigh (North Devon) Parish Church as a family burial-place in 1680, for a faculty for a removal of the pulpit from the church from its present position. The Chancellor finds that memorial stones to members of the Gidley family remained undisturbed in the Gidley aisle, which is on the south side of the church, until restoration of the church in 1871. The then vicar and his architect made variations from the authorised plans, and instead of placing the new stone pulpit on the north side, erected it directly upon two of the Gidley ledger stones, where it remained until 1915. In that year, while the petitioner and one of the churchwardens were abroad, the late vicar obtained a faculty for the erection of a screen, and during the work he and his architect decided to lift the pulpit and place it nearly four feet farther south, so as to obscure and obliterate a large part of the memorials of the family. The vicar of a parish, says Sir Francis, is not to be the judge of possible objections to proposed improvements. The pulpit, he directs, must be placed on the only site authorised—i.e., under the faculty of 1871, on the north side, or upon a site to be authorised by a fresh faculty to be granted after all parties interested have had an opportunity of being heard by the usual citation. The present vicar and churchwardens are entirely blameless.

The recommendation of the Improvements Committee of the London County Council for the letting of the Strand-Aldwych island site to the Bush Company, Ltd., at a rental of £55,000 a year for the purpose of an exchange, with exhibition and sale-room space, was approved on Tuesday.

On Monday night the Holywell Urban Council decided to apply to the Ministry of Health for sanction to borrow a sum of £30,000 for the carrying out of their housing scheme. Forty-two houses are to be erected, and the tender of Messrs. Roberts and Sloss, Liverpool and Prestatyn, has been accepted.

The 250th anniversary of Rembrandt's death last Saturday was commemorated at many gatherings in Holland. Chief of them was that in the Rembrandt House, the painter's dwelling in the Jodenbreestraat, in Amsterdam, which, considerably altered in the course of two centuries, was restored, and opened by Queen Wilhelmina in 1911.

Replying to a German inquiry regarding Australian manufactures, a firm of Geelong merchants wrote: "We do not desire to have anything to do with Germany. Your sea warfare amounted to murder and barbarism, and Gidley ledger stones, where it remained until will damn your country for generations."

LIST OF TENDERS OPEN.

COMPETITIONS.

Jan. 17.—For a New Secondary School for Boys for the County Borough of Southport. Author of Successful Design to carry out the building; 2nd premium, 200 guineas; 3rd premium, 100 guineas. Assessor, Maurice E. Webb, Esq., D.S.O., F.R.I.B.A. Conditions, etc., of the Town Clerk, Town Hall, Southport. Designs to J. Ernest Jarratt, town clerk, Town Hall, Southport. [See advt.]

BUILDINGS.

Oct. 20.—For 244 artisans' dwellings at Hendon. —For the urban district council.—G. Hornblower, F.R.I.B.A., 3, Devonshire Terrace, Portland Place, W.1, architect. Tenders to H. Humphris, clerk to the council, Town Hall, Hendon, N.W.4.

Oct. 20.—Tenders are invited for erection of 36 cottages on the Yeovil Road site, Sherborne. —For the urban district council.—Tenders to the architect, Mr. H. A. Welch, A.R.I.B.A., 7, New Square, Lincoln's Inn, W.C.2.

Oct. 22.—Messrs. Gilbert Canthing, Ltd., Selsdon Aero and Engineering Co., Sanderstead Road, South Croydon, invite tenders for alterations and additions to factory premises.—Applications to architect, Gilbert Canthing, Ltd., Sanderstead Road, South Croydon.

Oct. 22.—For waiting-room and shelter at Highfields, Adwick-le-Street.—For the urban district council.—Mr. G. Gledhill, surveyor.

Oct. 22.—For proposed houses at Stoke, under the Housing, Town Planning, etc., Act, 1919.—For the Housing Committee.—Borough Surveyor, Town Hall, Stoke-on-Trent.

Oct. 23.—For the erection of eight houses in blocks of four (Contract No. 3); 12 houses in blocks of four (Contract No. 4); 10 houses in pairs (Contract No. 5); four houses in pairs (Contract No. 6), in Park Lane, Orrell.—Tender to the Chairman of the Housing and Town Planning Committee, and delivered at the Town Clerk's Office, Town Hall, Bootle.

Oct. 23.—For extension of offices in South Street, Dewsbury.—Messrs. Kirk, Sons, and Ridgway, F.R.I.B.A., Market Place, Dewsbury, architects.

Oct. 23.—For not less than eight houses.—Architects: Block 1, Mr. A. J. Wood, A.R.I.B.A., 18, New Street, Leicester; Block 2, Messrs. Pick Everard and Keay, 6, Millstone Lane, Leicester; Block 3, Messrs. Harrison and Sons, St. Martin's East, Leicester.—Sealed tenders to the Chairman of the Estates, etc., Committee, City Hall, Leicester.

Oct. 25.—For the mason, carpenter, slater, plumber, plaster, and painter work of Masonic Hall, to be erected at Cullen. Plans and specifications with Mr. J. Lorimer, solicitor, Cullen, and Mr. J. Willet, architect, Elgin.

Oct. 25.—For houses at Churchfield Lane and Park Lane, Glass Houghton (176), Ferrybridge (80), and Fairburn (9).—For the Pontefract Rural District Council.—Mr. G. W. Hobman, clerk, Ropergate, Pontefract.

Oct. 26.—For erection of 38 houses, forming first portion of the Kenilworth housing scheme.—For the Kenilworth Urban District Council.—Mr. Sholto Douglas, architect and surveyor, Council Offices, Kenilworth.

Oct. 27.—For 496 houses. Also separate tenders for house drainage and fencing respectively, in connection with the St. John's Estate site, Watson's Lane site, and Layton site schemes.—Messrs. Lumb, Son, and Walton, 19, Clifton St., Blackpool; Mr. E. D. Dennis, 17, Birley Street, Blackpool; and Mr. F. T. Waddington, 10, Birley Street, Blackpool, architects.—Sealed tenders to D. L. Harbottle, town clerk, Town Hall, Blackpool.

Oct. 27.—For erection of 148 houses on the Glebe Field, Botwell, in the urban district of Hayes.—For the Hayes Urban District Council.—Mr. D. C. Fidler, architect and surveyor, Council Offices, Grange Road, Hayes, Middlesex.—Tenders to Council Offices, Hayes.

Oct. 27.—For thirty-four houses in Leicester Street, Leamington.—For the town council.—L. Rawlinson, town clerk, Leamington Spa.

Oct. 27.—For 30 houses in Bradford Street, Tamworth.—For the Tamworth Borough Council.—Tenders to R. H. Briggs, LL.B., town clerk, Tamworth.

Oct. 30.—For 69 houses on the Ivy House Estate, York Road, Leeds; 92 houses on the Hawksworth Wood Estate, Kirkstall, Leeds; and 50 houses on the Wyther Estate, Stanningley Road, Leeds.—For the Improvements Committee.—Tenders to the Town Clerk's Office, Great George Street, Leeds.

Oct. 27.—For 182 cottages on an estate at Heworth, situate to the north-east of York, and at a distance of about one mile from the centre of it.—For the Housing Committee.—F. W. Spurr, city engineer, Guildhall.

Oct. 28.—The Commissioners of His Majesty's Works invite tenders, addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1, for erection of a new sorting office at Golders Green.

Nov. 1.—For 66 houses on their Greenwich House Estate site, Ripley.—For the Ripley (Derbyshire) Urban District Council.—Tenders to G. Whitcombe, clerk, Town Hall, Ripley, Derbyshire.

(Continued on page x.)

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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Strand, W.C.2

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OUR ILLUSTRATIONS.

Christ Church Gateway, Canterbury. From a water colour by Mr. W. Harding Smith, R.B.A. Exhibited at the City Art Gallery, Guildhall, 1919.

Little Coates Church, Lincolnshire. Mr. Walter Tapper, F.R.I.B.A., Architect. Interior and exterior views. From the Royal Academy, 1919.

Fragments of Metal Work from the Sketch Book of Mr. H. S. East, A.R.I.B.A.

Two Flint Concrete Cottages, Braintree, Essex. Plan, elevation, and view. Messrs. Charles H. B. Quennell, F.R.I.B.A., and W. F. Crittal, Architects.

Currente Calamo.

Sir Charles Ruthven had a good audience at the Society of Architects yesterday week, and a useful discussion followed the reading of his paper, during which he certainly made out a good case for his system of house-building, which still seems imperfectly understood by some who report or comment on it, without taking the trouble to understand it. Possibly such objectors might extend their knowledge by reading the second part of his paper, which is given elsewhere this week. All Sir Charles claimed, we think, he effectually demonstrated was attainable. A perfectly dry, inhabitable house, ready for its inmates in thirty days, at a considerably lower cost than that of a brick or stone house, would certainly help to provide the houses which, so far, are being built so slowly, even if it did not establish a reputation as a lasting solution of our present difficulties. The system has little in common with the ordinary wooden house about which its friends and foes are at loggerheads. It seems specially suitable where, as in the colliery districts, the safety of the foundations is doubtful in the face of far too probable subsidences, and, given reasonable precautions, there is, in our opinion, little to fear from fire. Sir Charles Ruthven is a clear and cogent speaker, and his replies to one or two who followed him were tinged with good-tempered irony which the meeting enjoyed, particularly his response to the plea of one gentleman whose admiration for the through ventilation achieved thereby prompted his defence of the porosity of bricks!

The reports of the examination in Art by the Board of Education for 1919 state that 57 candidates entered for the examination in drawing, of whom 33 passed; 10 entered for that in painting, of whom 6 passed; and 5 for that in pictorial design, of whom 2 passed. In industrial design, 21 candidates entered for the whole examination, of whom 5 passed, including 1 who passed with distinction and 3 satisfied the examiners in the preliminary qualifying tests, but failed to pass the main tests; 7 entered for the preliminary qualifying tests only, of whom 2 satisfied the examiners; and 3 entered for the main tests only, of

whom 1 passed. It is stated that there was improvement in several important sections of the drawing examination, and that there was also some improvement in the painting examination, though the painting from life and the figure composition were still weak. In the pictorial design examination the work was for the most part of low standard, and that, though the quality of the exercises in industrial design varied greatly, much of the work was quite inadequate and in very few cases was it more than moderately satisfactory. In the architectural division we are told that the column exercises were carried out fairly by a large number of the candidates, but no great faculty of draughtsmanship was exhibited. The perception of a building subject did not seem generally cultivated. It is, after all, only architectural drawing that is tested, not architectural design nor any knowledge of construction; and while that is so, as we have said before, it is little likely that matters will be any better.

The conversion of houses into flats pans out more profitably for the owners than the occupiers! In one typical case in the West End a large house has hitherto been let to one family at a rental of £90 to £100 per annum. The lease ending, the landlord declines to renew it. He hurriedly puts up flimsy partitions on each floor, converting the double drawing-room into three tiny rooms, with a cupboard of a bathroom, and part of the landing as a kitchen. This he now styles a self-contained flat, for which £120 a year is demanded. The ground floor is treated in the same way and let at £100 a year. The two bedrooms on another floor are divided into four and let with the attics as a "maisonette" for another £120 rent. Even at these rents the flats are quickly let, and the landlord, with an outlay of a few hundred pounds, has increased his annual rent nearly fourfold. Whether he is now thinking of asking for a Government subsidy to meet his expenditure we do not know. Four families are thus crowded into the cubic space hitherto occupied by one, four kitchen fires increase the smoke where formerly only one was used. As this system becomes general the better-class neighbourhoods will become as overcrowded as the slums, and will

show a corresponding increase in sickness and infant mortality.

It is pleasant to find that Harrow having completed the scheme for the erection of 28 bungalows, it was approved by the M.O.H. within a few hours of its being deposited, thus creating a record in respect of schemes submitted under the Housing and Town Planning Acts. The proposal provides for the erection of houses of a permanent character, which can be erected quickly, if no unforeseen difficulty arises, giving practically the same accommodation as houses of the standard type (the rooms being slightly smaller) at a cost of something like £200 to £250 per house less than the tenders now being received in other districts for the standard type of houses, and the approval of the Ministry will, we hope, have a far-reaching effect in accelerating building operations throughout the country. The Surveyor paid a tribute of praise to Mr. Geo. E. Clare, architect, of Harrow, who collaborated with him in the preparation of the plans of the bungalows, which received much commendation. He also stated that the officials showed keenness to discuss the matter, and ready willingness to render all the assistance they could, as they recognised the scheme could be applied elsewhere, and would be of assistance in dealing with the housing problem. The Surveyor submitted the contract, amounting to £18,140, which had been signed by the contractors, and stated that it was hoped to make a start this week. A letter from the Housing Commissioner was read, giving approval to the scheme and to the provisional acceptance of the tender. We congratulate the Harrow Council, the Surveyor, and the architect on the good results obtained by the laudable collaboration of all concerned, and commend their example to less sensible local authorities who are piling needless burdens on the ratepayers.

The *Kinematograph Weekly* of the 16th inst. has a very timely paper by Mr. Colin Bennett, F.C.S., F.R.P.S., embracing some suggestions which all concerned with the design and construction of cinema theatres would do well to study, so frequently are the points covered needlessly ignored. As far as the hall where the public are seated goes, there is little to complain of in cinema theatres deserving

the name, but it is quite true, as Mr. Colin Bennett contends, that in some of the best their projection rooms are planned so high in relation to the screen centre that it is impossible to show a single film on the screen with rectangular outlines and top and bottom portion equally sharp at the same time. The spectators, therefore, never see the "silent drama" screen as well as it might be. Till a time comes when the operating box is schemed out in each new picture theatre with the same care in relation to the screen as is now given to the plans of the stage at a legitimate house, the industry, prosperous as it may be, is still far from coming into its own, or from appealing to the best in the best class of patron. Yet, while in existing kinemas the mistake of the wrongly placed operating room may be beyond rectifying, there are several other small mistakes which can be got over, and which will pay well for being put right. For instance, there is the small but important mistake some kinema owners make of allowing their projection apertures to be glazed with ordinary window glass. Even if this does not greatly affect the definition given by the lens, it will always do some quite noticeable damage to the sharpness of the screen picture. Plate-glass costs hardly any more than common window glass in the small size required, and the picture definition is far less injured by it, practically not at all if a nice, smooth specimen of plate-glass is chosen for the aperture. Other mistakes, for some of which architects are less directly, but still responsible, are dealt with.

A new monthly, entitled *Business Organisation and Management*, reaches us from the publishers, Sir Isaac Pitman and Sons, Ltd., 1 Amen Corner, E.C.4, issued at 1s. 6d. net. It is practical, and there is none of the stuffing in it which wastes the space in most of the well-meant lucubrations of the pseudo-philanthropists in Government offices and elsewhere who are helping to send up the price of eggs by their large consumption for the benefit of their grandmothers. We especially commend to our own readers an excellent paper on "Systems of Office Lighting," by Mr. Leon Gaster, the editor of the *Illuminating Engineer*. The ordinary gas or electric light fitter seems to know little about the matter, and either lights all rooms alike, with total disregard that different amounts of illumination on work—say in stairs and passages and a drawing office, are indispensable if economy and good lighting are to be studied. For the draughtsman to facilitate tracing and very fine work special direct lighting is, of course, indispensable, and a special adjustable fitting is recommended, which is well worth the attention of all concerned.

For the erection of 59 houses in Ruislip village, the council have accepted a tender for £49,848; 34 houses at Eastcote will cost £23,974. Permission of the St. Pancras Borough Council has been given to the London and North-Western Railway Company to erect to their employees who fell in the great war a handsome memorial in the centre of the approach road leading from Euston Road to Euston Station. The memorial will be an obelisk 45 ft. high.

THE ROYAL ACADEMY WAR MEMORIALS EXHIBITION

It does not follow the principle laid down by the Special Committee that all works and designs shown should have some direct reference to war, for it includes some of the old unsuitables which were let in at South Kensington, on which we commented at the time, but it is a useful exhibition, though most room is given to the section which is most disappointing. There is really little in the sculpture that appeals to the emotions, or justifies the claim of the art to be one of expression. It will rather serve to emphasise what should best be avoided than what to adopt, and few will be well advised who choose any of the many small things that might pass muster as cake ornaments, but which utterly lack inspiration. Of the best there are Mr. Allan G. Wyon's "Humanity and the New Age" (5), Mr. W. Robert Colton's "Crown of Victory" (2), Mr. Albert Toft's "To the Fallen Heroes" (3), Miss Margaret Winsor's large memorial panel (6), Miss Mary Morton's bronze figure of a woman to be placed on a plinth, on which are the figures of the fallen (66), and Mr. John Angel's statuette group of "St. George" (69). Mr. Gilbert Bayes sends his "Anach." (9), and his model of a Relief erected at Aldeburgh (34), which we noticed when shown at South Kensington in July last.

The Architectural section is better, on the average: first because, after all, a building is, as we have said many times, the best memorial, first because, in addition to its intended purpose, it is likely to be the most lasting, and can be made, moreover, the fitting home of subsidiary memorials to individuals, whether fittings, or merely tablets, rolls of honour and the like, to say nothing of stained glass or tapestry; and next, because the architect even when dealing with little more than masses of stone or other material works on safer lines than the sculptor, and had has the benefit of better training. Sir Edwin Lutyens exhibits a model of "The Great War Stone" which is being erected by the Imperial War Graves Commission in British and Dominion War Cemeteries abroad (388). It certainly occupies a considerable amount of floor space, but is as good in its way as his "Cenotaph" in Whitehall, of which a model is shown (390). Sir Edwin also sends a perspective of his "War Memorial" at Spalding (290), with plans and elevations (293) and another perspective (294); a model of his "Great Yarmouth War Memorial" (298), and elevations and plans of his "Southampton War Memorial" (334, 335, and 336).

Sir Reginald Blomfield's full-size model of his "Great War Cross," erected in the Quadrangle (398), is a tall, simply designed cross, with a gilded sword inset in the face of the shaft. He also sends his designs for "War Memorial at Lincoln" (324) and at Eltham (325), and a sketch for a "Memorial Cross" at Loch Shiel, N.B. (326). Messrs. Temple Moore and Moore have three good memorial crosses: the first at Pontesbury, Salop (302), the second at Windermere (307), and the third at Leake, near Boston, together with a design for a "Churchyard Memorial Gate" at Holme-on-Spalding Moor, Yorks (373).

Sir Aston Webb's principal exhibit is the "Memorial Shrine" at the Church of St. Bartholomew the Great, E.C. (310). The others are a "Tablet to the late Lieut. Col. Archer Clive, M.P.," at Whitfield, Herefordshire (303), and "Proposed War Memorial," Sharpenhurst Hill (34). Sir Banister Fletcher shows his "Design for Bronze Memorial Tablet to his late

brother, Major H. Phillips Fletcher, D.S.O., with a portrait medallion by Mr. C. L. Hartwell, A.R.A." (96). Mr. E. Guy Dawber has two contributions, a "Design for a War Memorial Tablet to East Anglians" at the Great Eastern Railway Offices, Liverpool Street, E.C. (121), embracing the arms of the counties of Norfolk, Suffolk, and Cambridge (121), and some Wall tablets in Twynning Church, Twkesbury, and Long Wittenham Church, Berks (139). Messrs. J. W. Simpson and Ayrton send some "Bronze Memorial Tablets, West Downing School" (218), a "Bronze and Marble Memorial Tablet, Haileybury College" (233), a "Memorial, Commercial Union Assurance Co." (311), an "Altar Piece and West Entrance, the Chapel, Ryeleam School" (314), and a "Design for a War Memorial, Lancing College" (384).

Mr. C. Stanley Peach sends two sheets of a "Design for a National War Memorial," with sections of site and elevation, and detail place of central control (284 and 286); Mr. W. D. Carey has a "Rood Screen at Sefton, Lancs" (291), "A Market Cross" (297), "A Selection of War Crosses" (350), and a "Reredos, Royal Naval Barracks, Chatham" (354). Messrs. Bodley and Hare show some "Designs for Memorial Calvaries" (345), and a "Design for King's Royal Rifle Corps War Memorial, Cloisters, Winchester Cathedral" (353). Sir Robert Lorimer shows some "Bronze Memorials" (365), and some "War Memorial Tablets" (372). Mr. Maurice B. Adams' "Design for War Memorial erected in St. Paul's Church, Hammer-smith," in Giallo Antico, is No. 371. Lt.-Col. J. E. Dixon-Spain has six exhibits (285, 306, 321, 322, 329, and 331), the last but one being the "Royal Artillery War Memorial Building."

Sir Thomas G. Jackson's "War Memorial Chapel in St. Michael's Church, Bournemouth" (304), is one of the best things in the exhibition. The bronze figure therein is to be by Sir G. Frampton, R.A. Equally interesting are his "War Memorial Monument in Chapel of Radley College" (347), and his "War Memorial Chapel in Church of the Hospital of St. Cross, Winchester" (348). The bronze statuette in both the last-mentioned will also be by Sir G. Frampton, R.A. Messrs. Sir Ernest George, R.A., and A. B. Yeates are represented by a "War Memorial at Seaford" (340), a "War Memorial Cross, West Heathly, Sussex" (341), and a "Lych Gate at Nuthurst, Sussex" (343). Messrs. A. Marshall Mackenzie and A. G. R. Mackenzie send a perspective view and a plan of their "War Memorial Art Gallery for Aberdeen" (342 and 346). Messrs. Maurice E. Webb and Walter Gilbert are jointly responsible for the "Proposal for the Malvern College War Memorial" (351). A "War Memorial Cross for St. Barnabas, Tunbridge Wells" (360), is shown by Mr. P. M. Andrews. We may also mention a "Wayside Cross for Thorley Parish" (379), by Mr. E. C. Frere; a "Design for National Memorial to all Ranks of Kitchener's Army" (369), by Mr. Hubert Gregory; and the "Model of a Marble and Bronze Tablet to be erected in the Public Trustee's Office, London" (120).

The designs for stained glass are very numerous. When good, a stained glass window is as fitting a memorial as any, and more so than many of the tablets and things of that sort which are so often the mere productions of the cemetery mason, and disfigure the walls on which they occupy space, to the disfigurement of the building. From coloured drawings,

however, it is not easy to judge of the designs for stained glass. They are often very crude, and seldom give a fair idea of the window as it will appear *in situ*. We are a little surprised at the absence of several exhibitors of the first rank, who are possibly too busy. Possibly among the best shown are Mr. Henry Holiday's "Design for a Memorial Window in Yeovil Church" (209). Mr. W. G. de Glehn's "Memorial Window to Ernest Hills, Esq." (207), Miss R. M. Tancock's "Jeanne d'Arc" (195), several by Mr. R. Anning Bell, A.R.A. (186, 235, 238, and 362), five by Mr. Henry Dearle (185, 187, 188, 189, and 190), and one by Mrs. Caroline Townshend, a "Design to Commemorate the Sacrifice of Youth in the War," erected in Platt Chapel, Fallowfield, Manchester (170).

We are glad to see that Sir George Frampton's lead is encouraging others to use tapestry as a memorial medium. There are several good things of the kind shown, including the "Design for a Tapestry Panel" (100), by Mr. George Clausen, R.A.; the "Tapestry and War Hangings" at Eton College Chapel, by the late Sir Edward Burne-Jones and Mr. Henry Dearle; Mr. Charles Sim's "Dawn" (245); Mr. E. Reginald Frampton's "The Communion at the Front" (89); and Miss Lola Frampton's "Tapestry Border for a Memorial Inscription to a Welsh Regiment" (163). We are also pleased to find some more of the sensible and durable slate wall tablets of the sort we mentioned in our notice of the South Kensington exhibition. They will outlast many of much more costly material, and are within the reach of people of modest means who shrink from mere meretricious vulgarity. The Municipal School of Art, Leicester, has sent several by its pupils, Messrs. W. Briggs (229) and C. Coleman (232).

There is some good metalwork to be seen, and any number of rolls of honour and the like. Among the former the "Memorial Chalice and Paten in Silver for Manchester Cathedral" (272), and the "Chalice and Paten" (276), both by Mr. Omar Ramsden, whose Zeebrugge Tablet War Memorial we illustrated in our issue of July 23 last; and the gilt copper processional cross for York Minster, by Messrs. W. T. Tapper and W. Bainbridge Reynolds, which we gave in that of August 27 last, are excellent; and of the last-mentioned we like exceedingly Mr. Graily Hewitt's "First Panel of the Roll of Honour for Ickam, Kent" (237) and his "Opening Page of a Roll of Honour for Purton, Wiltshire" (268).

HEALTH MINISTRY'S HOUSING REPORT.

The return of housing progress issued weekly by the Ministry of Health states:—

The number of new site schemes submitted to the Ministry during the week ended October 11 was 150, bringing the total number of schemes submitted to 5,278, comprising about 46,500 acres. The total number of schemes approved is 1,837, comprising about 21,400 acres.

The total number of schemes submitted in the house-plan stage is now 703, representing 39,355 houses; of these, 456 schemes have been approved, representing 26,103 houses.

Thirty-one local authorities had made application by the end of the week for war-service huts and hostels with the view of converting them into temporary dwellings for the working classes. A table showing the progress made is appended.

Willesden Council, for the time being, have dropped their housing scheme, as it was found that the economic rent of a five-roomed cottage would be nearly 35s. a week.

BRITISH HOUSE BUILDING METHODS.*

By SIR CHARLES T. RUTHEN, O.B.E.,
F.R.I.B.A., M.S.A.

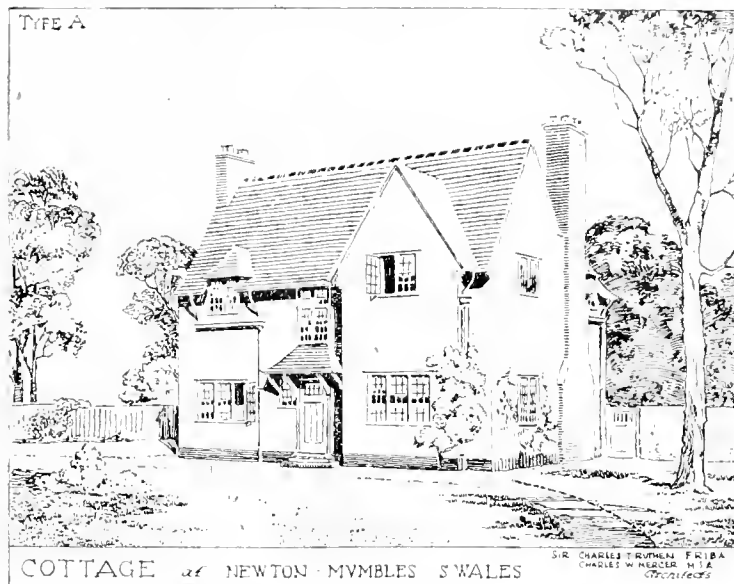
(Hon. Examiner and Member of the Council
of the Society of Architects.)

(Continued from page 332.)

I should explain that the houses at Newton have not been erected with the intention of showing what can be erected for the lowest possible price. My intention, and I have succeeded, was to show that artistic, strong, last-

rapid, reasonably lasting, strong and weather-proof, I should like to put before the members a few additional points in favour of this system of house construction.

In considering the question of cost, and applying the consideration to the actual cost of the shell of the structure, I have been able to obtain figures which convince me that the actual cost per superficial yard of the shell, that is to say, the timber framing or studding, the shield fixed upon the outside and plastered two coats of cement plaster, with



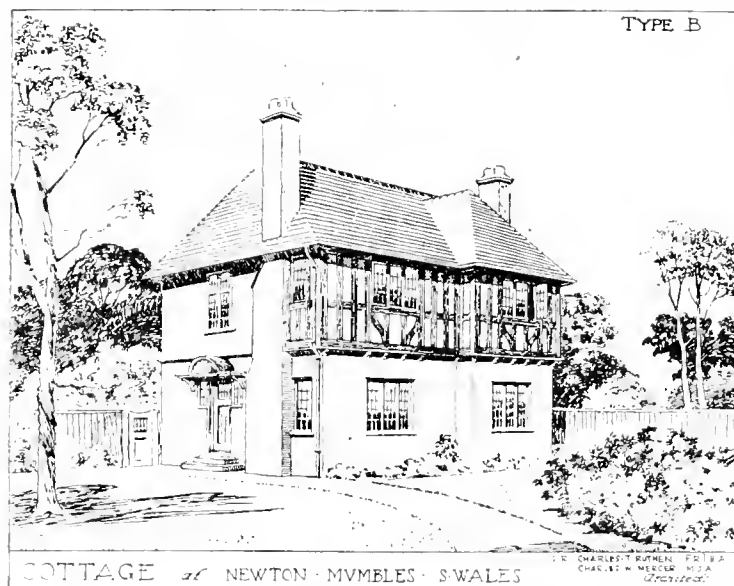
ing, weatherproof houses can be erected in a matter of a few weeks, and that after completion they can be tenanted immediately. Also, that although erected in a very short time, they are, notwithstanding, good houses, finished so far as the exterior and interior are concerned, in the best possible manner and with the best possible materials.

The roofs of Type A house have been covered with best rustic Precelly slates, specially selected and well laid. The kitchen has been tiled with white-glazed tiles to a

the inside lathed and plastered in the usual way, or covered with asbestos sheeting or fibrous wall board, is less to the extent of 7s. than the same shell would be if erected in 11-in. hollow brickwork.

The actual cost of the Type A house at Newton has been £125 less than the same house would have cost in 11-in. hollow brickwork.

There are also a number of minor advantages from the point of view of cost, small points perhaps, but all of consequence in these



height of about 7 ft., the plumbing, sanitary and other fittings, joinery and door and window furniture are of the best quality, and all the windows are steel casements glazed with leaded lights.

Types B and C are erected in exactly the same manner, excepting that the roofs of Type B are covered with Broseley tiles and those of Type C with Welsh green slates.

If the proposition be accepted that the form of construction adopted at Newton is satisfactory from the various essential points of view, that is to say, that the principle is

difficult days of housing shortage and building costs.

The area of the site to be covered is smaller than would be the case with a brick house. The foundations are less costly, the roof timbers and slating are less in quantity.

In conclusion I may state definitely that in the present national emergency I place speed in erection first of all and, incidentally, speed with which houses are tenanted after completion. I place next in order of importance weather-proof qualities and stability of structure, all other essentials follow in order of importance. I feel confident that the

* Read before the Society of Architects, October 16.

life of structures properly erected similar to the specimen houses at Newton will be quite as long as most of our pre-war houses, and there is no doubt about it, the cost of erection is less.

Whatever may be your opinion of these important matters, I feel confident that the time for talking is over, and the time for action has arrived.

All those who have the highest interest of the State at heart will agree with me when I say that houses must be built, if good houses so much the better, but houses must be built and at once.

I should like to record my thanks to my partner, Mr. C. W. Mercer, M.S.A., for his assistance in the preparation of the details and other drawings, and to my friend and client, Mr. W. K. Jones, for his great confidence in my opinion, and for finding the necessary money for the erection of these experimental houses. I feel that great thanks are due also to the Press of the country for so splendidly

RATING PROBLEMS: THE "SYDNEY PLAN."

The question of the rating of land values has lately been receiving some attention in Birmingham as the result of an active propaganda in favour of what is known as the "Sydney Plan." In the Birmingham City Council last week a number of Councillors expressed an eagerness for information as to what the plan really was, and the Council, apparently scenting propaganda rather than a genuine spirit of inquiry, refused to instruct the already overworked Finance Committee to collect the information asked for. If the inquiry had been granted the Finance Committee could not but have reported that the "Sydney Plan" was nothing more nor less than a practical application to local rating of the taxation of land values scheme which has been before the country for many years without obtaining a measure of public support sufficient to enforce an experiment in it.

already been established some years before. The New South Wales Government had collected their land tax on it, and the responsibility of valuations had already been in the hands of a competent valuer. "He still retains," the Town Clerk continues, "the position as city valuer, so that it will be recognised that under the administration of one valuer, with the knowledge of all transactions of city properties before him continually, whereby he is placed in a position to decide the true values, that, with one mind in operation, a regularity of values for rating purposes must be in evidence. In order to substantiate and support the city assessor's valuations of land, it is found necessary to keep a record of the individual rentals paid throughout the city, so that whenever a revaluation of the city is ordered by the Council, a canvas of the city is made by collectors appointed for the purpose, and a complete record is made. There are several bodies of a civil character which are self-administered—viz., Metropolitan Water Supply and Sewerage Board, Sydney Harbour Trust, Fire Brigades Board, Railways and Tramways. All of these bodies are exempt from taxation, except the Fire Brigades Board, but the rates paid by this body are infinitesimal compared with the amount of contribution paid yearly by the City Council into the fund of this Board. The electric light and power administration of the city of Sydney is under the control of the City Council.

Under the Sydney Corporation Act the Council is directed to make a reassessment of the city at least once in every five years. It has been the custom, however, to carry out the work every three years, both for unimproved capital value and annual or assessed rental value assessments, and although the annual value basis of taxation has been suspended, it has been held by the city assessor that it is absolutely necessary to keep up the records in this connection in order that all the information which has a bearing on valuations is at hand for reference. The assessed annual value basis of taxation is still in force so far as the Water and Sewerage Board is concerned, and that body is empowered under their Act to take a copy of the Council's assessment books.

APPEALS AGAINST ASSESSMENTS.

"Assessment notices are issued, both for the assessed annual value and the unimproved capital value, in the month of January, thirty days being allowed by the Act for the service of same from the date the assessment books are handed over by the valuers to the town clerk, which is always about December 30. The assessed annual value notices are served in the premises to which they refer, and the unimproved capital value notices are posted to the owners. Appeals against assessments must be lodged within fourteen days after the thirty days aforesaid have expired, and such appeals are dealt with by the valuers. The appellants are invited to meet the valuers at an appointed time, and the appeal is discussed, and if possible an amicable settlement is arrived at. Such settlements are confirmed by the Court of Appeal in due course, and all unsettled appeals are called at the Court, and those undefended are struck out, and defended ones, of course, are heard by the judge and disposed of. The method of holding friendly appeals by the valuers is found to be very satisfactory. The number of contentions appeals which come before the court is very small."

By means of a rate of 4½d. in the pound on the capital value of land, Sydney Corporation, in 1916—the latest return we have been able to obtain—raised £1,152,897. This figure is exclusive of the rates levied separately for the sewerage and water services and of any charge for education, which is a State matter in New South Wales.

The work of underpinning Melton Mowbray parish church has been completed in the south transept, and the foundations are now much stronger than before. The total cost has been £507. Designs for the window and monument in the south transept are being prepared by the artists. The total cost will be at least £500.



supporting me in the effort I am making towards the solution of one of the greatest problems of modern times.

The houses erected at Newton, near Swansea, I feel satisfied, comply with all the essentials necessary for the provision of homes for the people, and are cheaper than brick, stone, or concrete houses, and have the enormous added advantage of rapidity of construction and completion fit for occupation.

The first (erected and completed in 30 days) is an example of typical American house construction adapted to suit English tastes. (Type A.)

The second type has a single brick veneer upon the outside to pander to the conservative British taste. This feature is, in my opinion, an unnecessary expense, adds slightly to the time of erection, and does not improve the weatherproof qualities of the house. (Type C.)

The third has a single brick veneer to the first floor level and half-timbered work above. Both these features may add, in the opinion of many, to the beauty of the house, but from the point of view of the home within both are unnecessary and add to the cost and time of erection. (Type B.)

All three types have wooden frame-work as the main skeleton.

The first type is, in my opinion, the type that should be adopted in this country in the present emergency.

(To be continued.)

Mr. C. H. Campbell, an associate of the Land Agents' Society and formerly pupil with the late Colonel E. J. Mostyn, has been appointed sub-agent to the Earl of Powis.

The Market Harborough Rural District Council have unanimously decided to issue an order for the compulsory acquisition of sites required in connection with the housing scheme in the parishes of Lubenham, Kibworth Harcourt, Foxson, East Langton, and Fleckney, with the owners of which the Council has been unable to arrange terms of purchase.

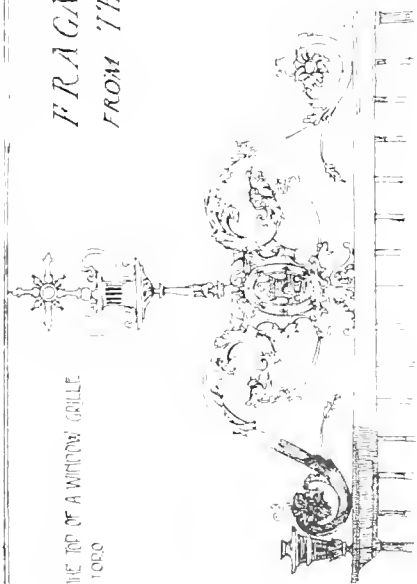
Sydney, Johannesburg, and other colonial authorities, however, have adopted the system, and Mr. Roland Filkin, the secretary of the Birmingham Sydney Rating Association, has put at the disposal of a *Birmingham Post* representative a letter the Town Clerk of Sydney has sent to the Birmingham association, in which his Corporation's scheme is detailed.

"The 'Sydney Plan' of taxation (the Town Clerk writes) is known in Sydney under the designation of 'Unimproved Capital Value System of Rating,' and involves therefore the simple method of taxing ratepayers by one direct basis of valuation upon the land value without any regard whatever to the value of improvements upon the land. This system was installed in Sydney in 1909, but only a portion of the rate revenue of the city was derived from same. The balance of the revenue came from the original form of rating—viz., the assessed annual value of fair rental value. This latter basis was abolished or suspended in the year 1916, after a considerable amount of argument for and against, and the unimproved capital value basis was adopted by the Council. The revenue under the dual system was raised by the striking of rates as follows:—(a) Assessed annual value with a limited rate to be struck up to 2s. in the pound on 9-10ths of the gross annual value. (b) Unimproved capital value, with a limited rate to be struck up to 3d. in the pound. The existing rates in the pound at the date of suspension of the annual value were:—Assessed annual value 1s. 9d. in the pound; unimproved capital value 1½d. in the pound. The Council, in adopting the single system of unimproved capital value, was desirous only of raising the equivalent revenue as was received under the dual systems, and struck a rate at 4d. in the pound."

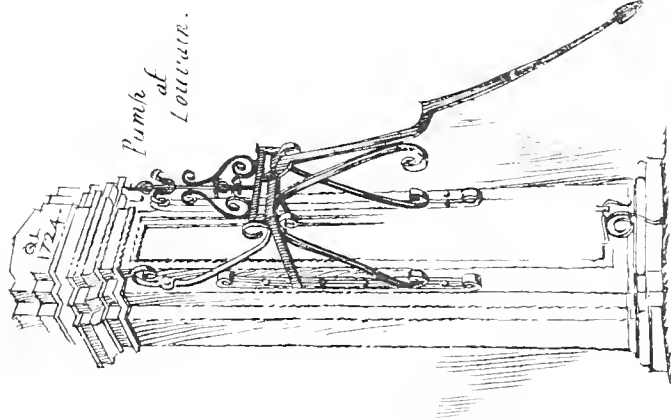
HOW THE ASSESSMENT IS MADE.

The Town Clerk of Sydney goes on to show how the assessment is made. The basis had

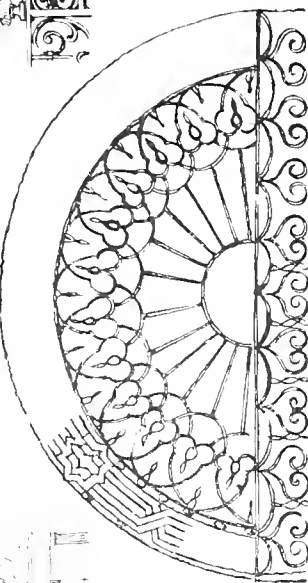
FRAGMENTS OF OLD METAL WORK
FROM THE SKETCH BOOK OF M^{rs} H. S. EAST



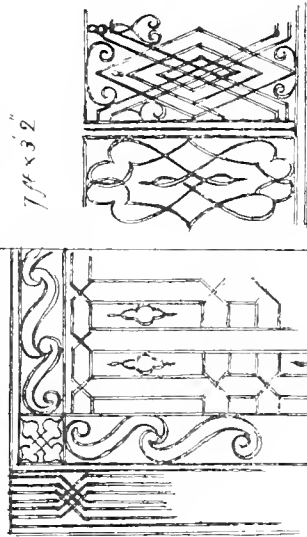
THE TOP OF A WINDOW GRILLE
1000



Pump
at
Louvre.



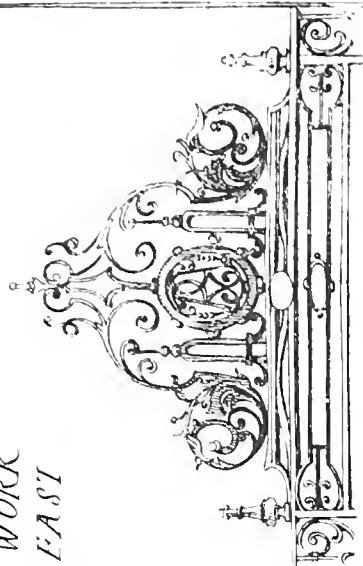
An Iron Grille Seville



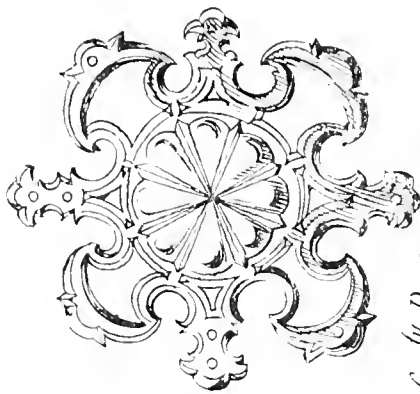
7 1/2 x 3 1/2

A Panel.

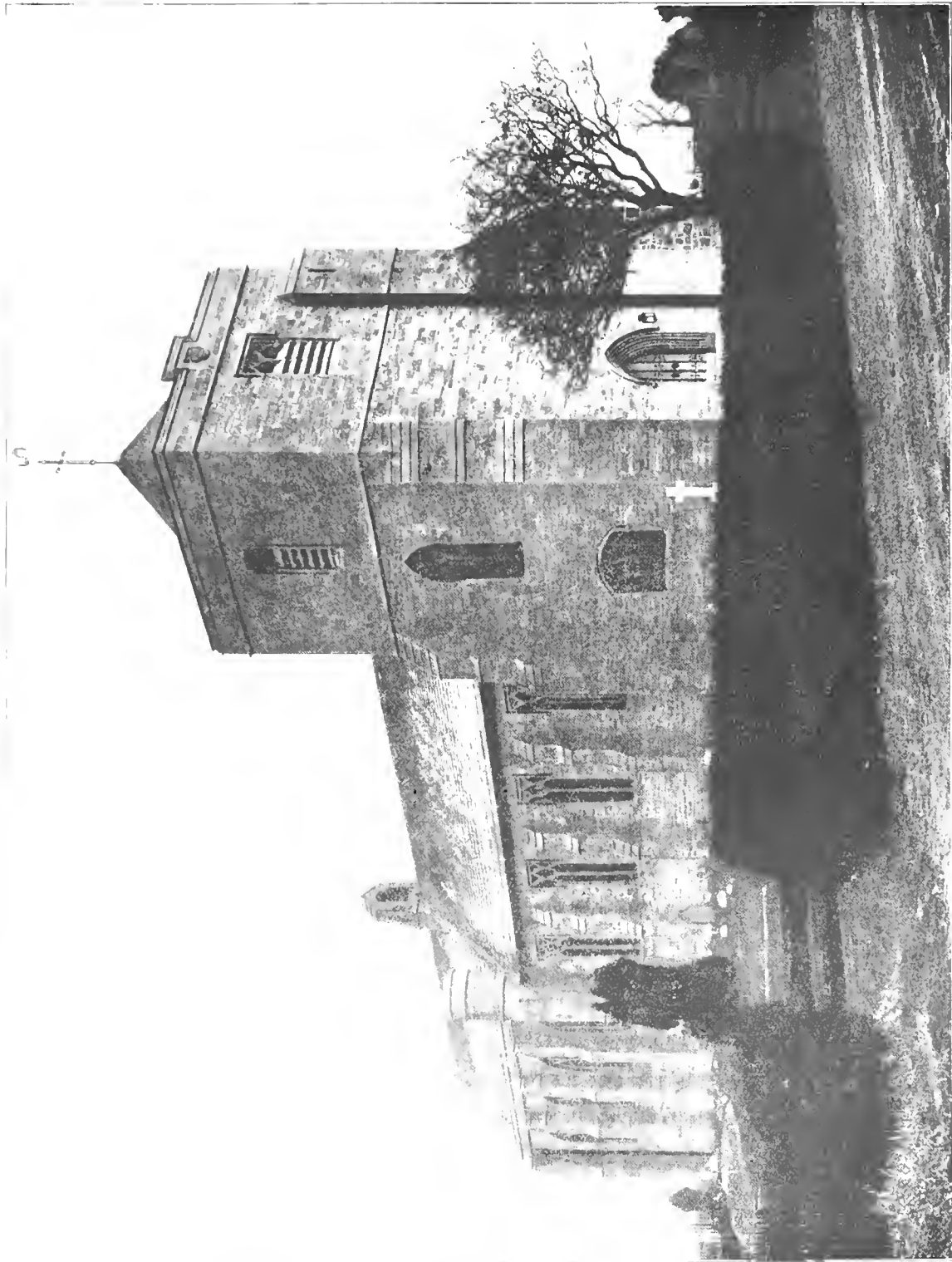
Ironwork in Seville



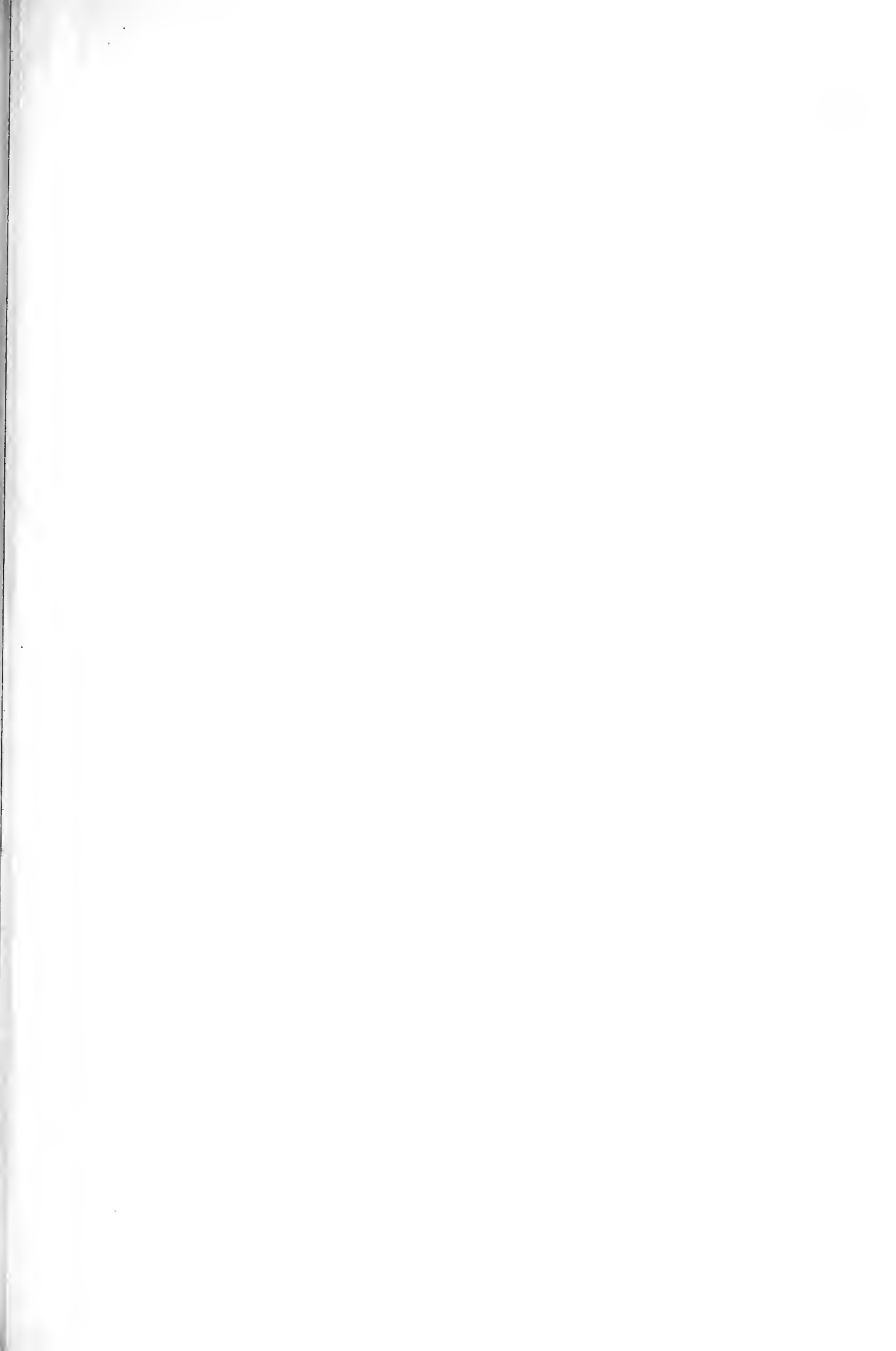
A Gate 2 years House
Chelsea Embankment



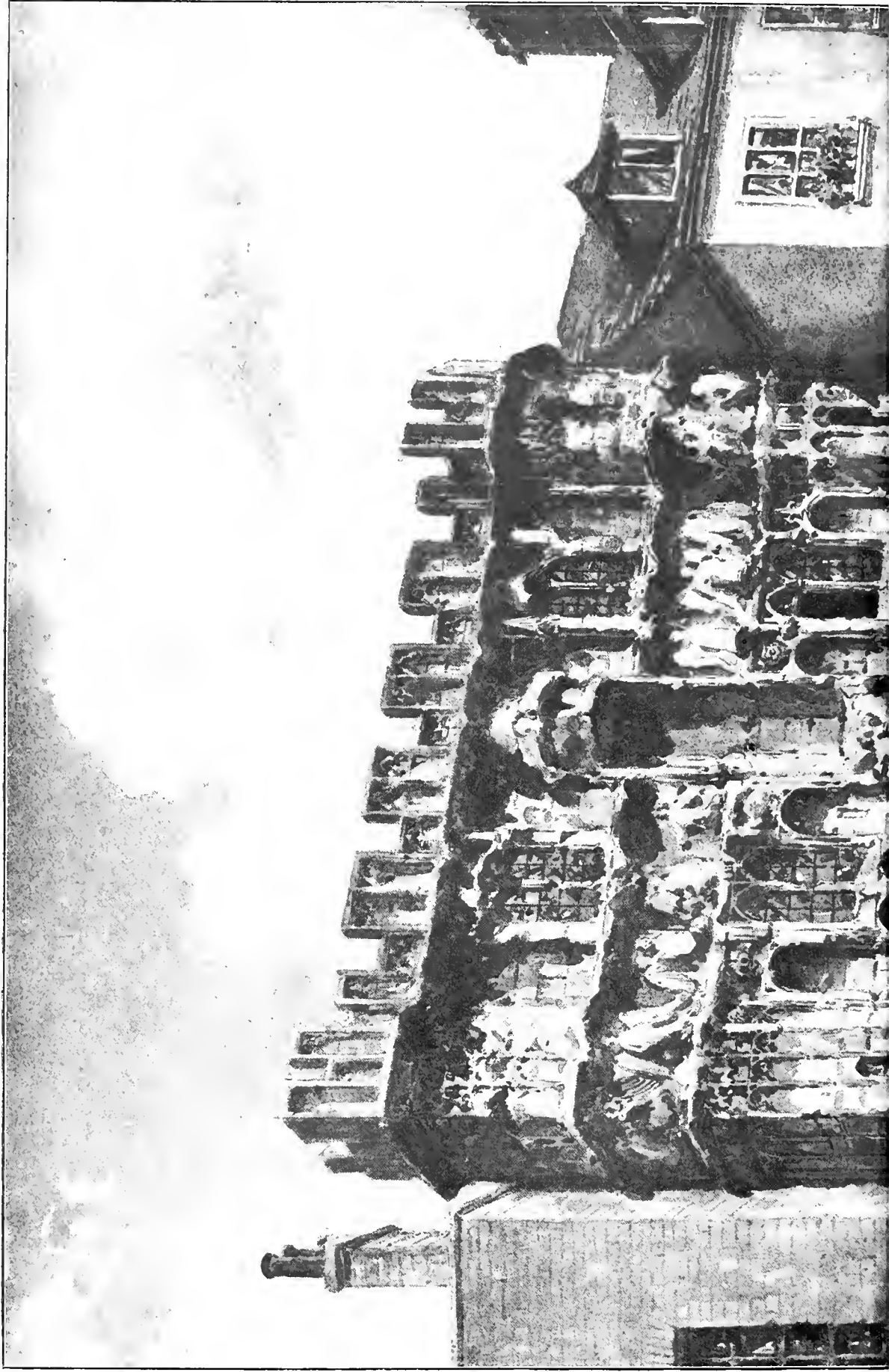
A 17th Century Door
Handle



LITTLE COATES CHURCH, LINCOLNSHIRE : N.W. VIEW.
MR. WALTER TAPPER, F.R.I.B.A., Architect.



THE BUILDING NEWS, OCTOBER 24, 1919.

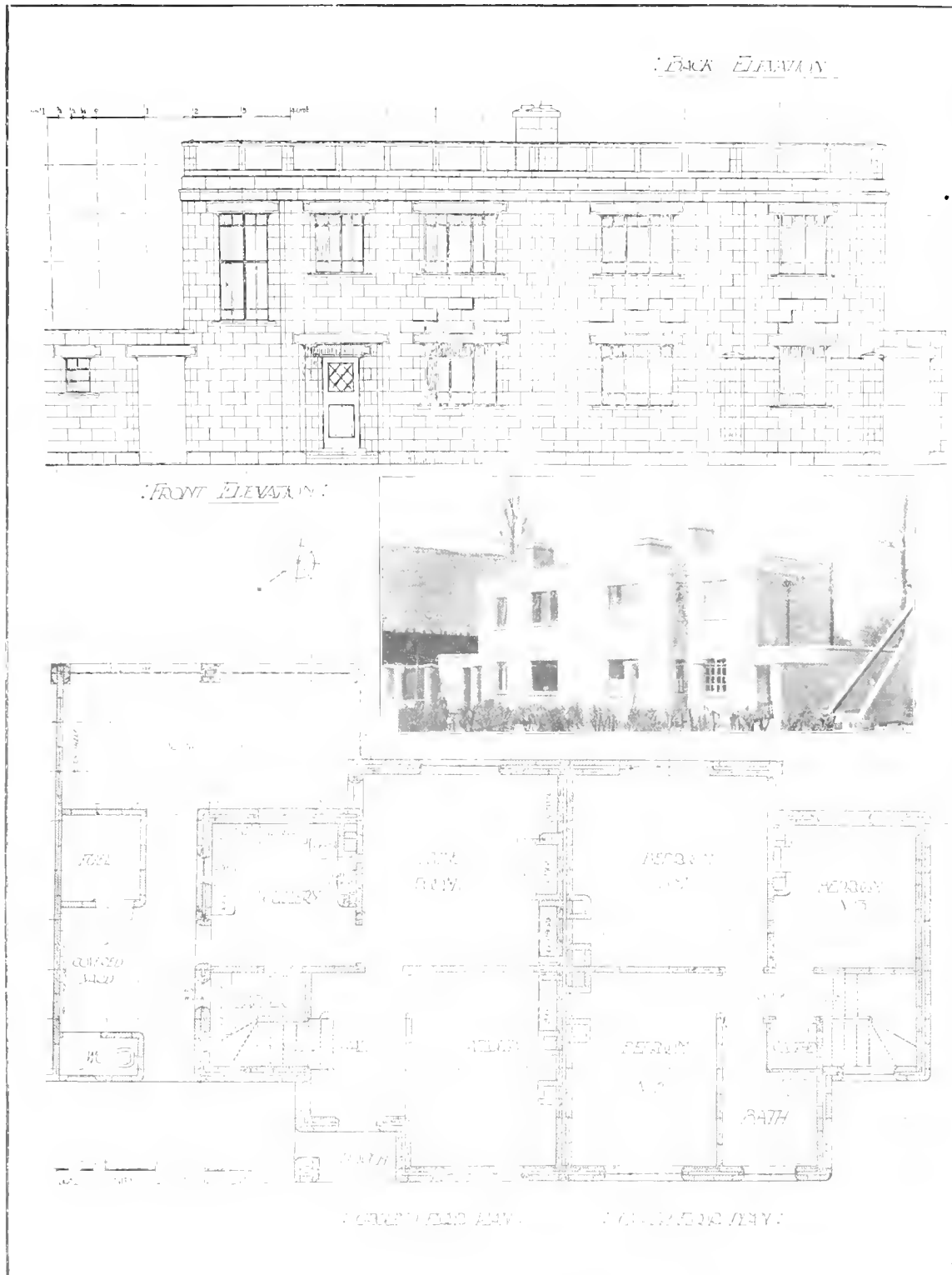




CHRISTCHURCH GATEWAY, CANTERBURY.
From a Water-colour Drawing by Mr. W. HARDING SMITH, R.E.A.
Exhibited at the City Art Gallery, Guildhall, 1910.



LITTLE COATES CHURCH, LINCOLNSHIRE.
MR. WALTER TADLER, F.R.I.B.A., Architect.



TWO UNIT CONCRETE COTTAGES, BRAINTREE, ESSEX.
Messrs. CHARLES H. B. OPENNELL, F.R.I.B.A., and W. F. C. L. ADAMS, Esq.

Correspondence.

DOPING A LEAKY WALL.

To the Editor of THE BUILDING NEWS.

Sir,—We read with interest the article on page 291 in your issue of October 3, headed "Doping a Leaky Wall."

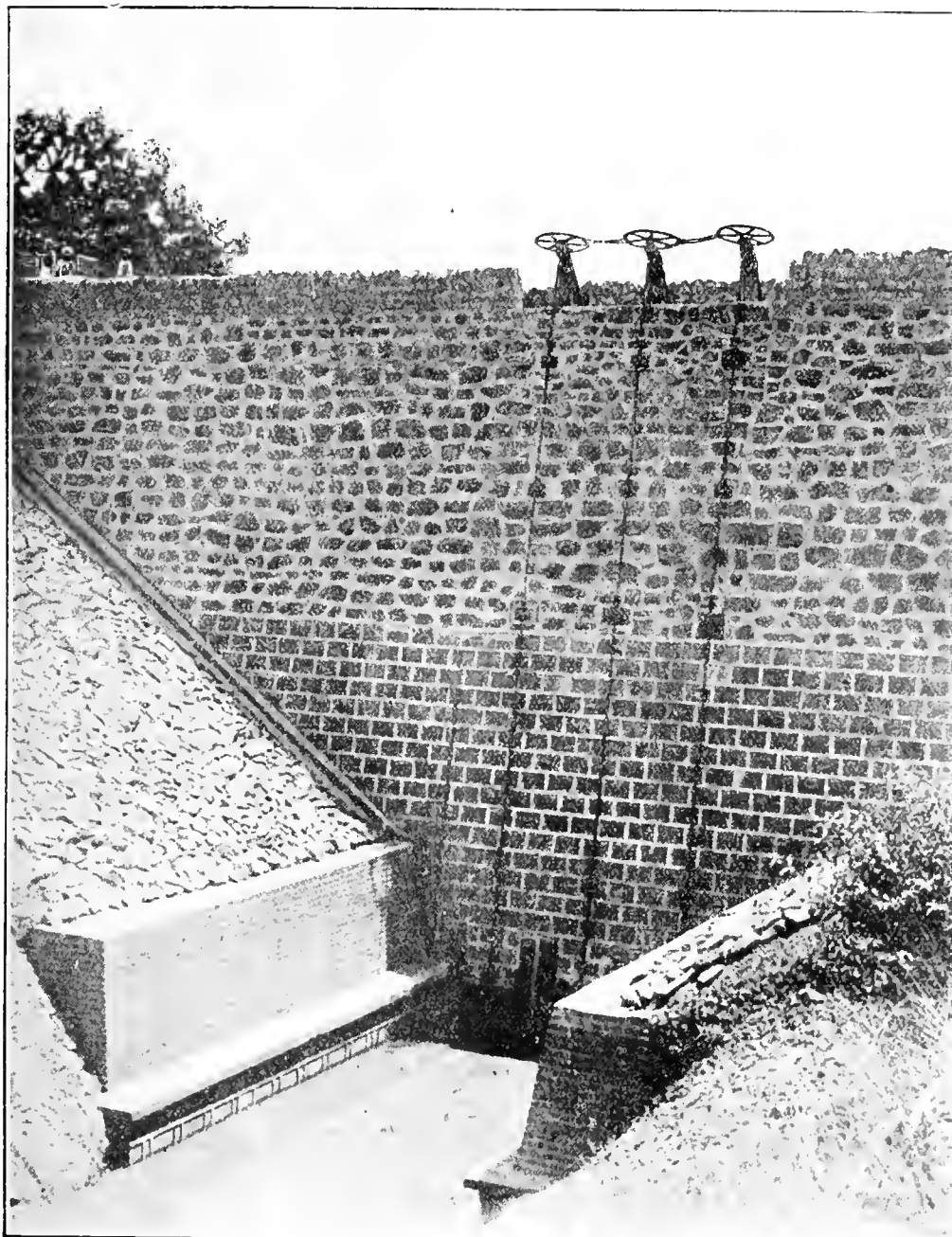
Your readers, we think, will be interested to learn of the measures taken to remedy a similar case. This was in the reservoir at Kharagpore, India, where one of the sluices

Our Illustrations.

CHRIST CHURCH GATEWAY. CANTERBURY.

Dismantled and in many ways suffering from the mutilations of friends as well as of foes, Peter Goldstone's Gate, at the end of Mercery Lane, still retains the dignity and characteristics of its time, dating from 1517, and is reckoned a fine example of the Perpendicular style

the particular blocks or concrete slabs used as the multiple. The advantage claimed is that no cutting of the constructional slabwork is needed. The architects are Messrs. Charles H. B. Quennell, F.R.I.B.A., and W. F. Crittal. The external wallings are hollow with metal ties connecting the two thicknesses of slabs, and form a cavity of $2\frac{1}{2}$ ins., the total thickness of these walls being 11 ins. The divisional partitions are made up of solid concrete blocks, as shown by the accompanying plan. The



leaked badly owing to the water-pressure against it. All the joints in the face of the wall on the lake side were raked out to a minimum depth of 3" and then refilled with one part of cement, two and-a-half parts of clean sand, and 5 lbs. of Pudlo to every 100 lbs. cement. All leakages were stopped, and the storage capacity of the reservoir was thereby greatly increased.

We enclose a photograph of the sluice in question, and you will see by comparison with the size of the men at the left hand top of the wall that the area dealt with was very considerable and the water pressure consequently great.

We trust that this information may be of use to those of your readers who are interested in similar problems.—Yours faithfully,

KERNER-GREENWOOD AND CO., LTD.,
King's Lynn.

of a late period. Good drawings, similar to Mr. W. Harding Smith's water-colour reproduced to-day, are not often produced. The now empty central niche was at one time occupied by a figure of Christ. The defaced bearings on the shields below are those of contributors to the cost of its erection. The battlements are modern. The picture was exhibited at the City Art Gallery, Guildhall, recently when the Royal Society of British Painters held its summer session as the guests of the City Corporation.

UNIT CONCRETE COTTAGES, BRAIN- TREE, ESSEX.

These workmen's dwellings are set out on the basal idea of the Unit principle determined by the standardised size of

flooring is carried out in reinforced concrete, having a bearing only on the inner thickness of the outer walls. The floors are floated with a jointless composition turned up with a curve against the walls and finished by a small skirting. The houses are of two sizes. The bigger ones have parlour, living-room, kitchen, hall, four bedrooms, and a bathroom. The other cottages comprise living-room, scullery combined with bath space, and three bedrooms—the ordinary accommodation, but arranged to conform to the construction of the unit multiple. Extensions of scheme can be readily adopted when the structure is set out, but, as in all concrete buildings, alterations subsequently are not economically possible. Metal

dealings of any kind only with those who have determined to keep out the German. We also suggest any who have missed them to read our own comments on this page of our issue of September 12 last, on the insidious attempts that are being made to influence British publicity of German goods and British fraternisation with German architects!

The scarcity of houses is always bringing up new points in the Law Courts. The Increase of Rent Acts have done good work in saving tenants from eviction, and their construction is now fairly well settled. But, where the Acts do not apply, the shortage of dwelling space goes on causing trouble. The recent curious case of "National Steam Car Co. v. Barham" is an example of what we mean. There the plaintiffs claimed possession of some premises at Shepherd's Bush which the defendant had been allowed to occupy, without rent, while he was in their employment. This had come to an end on August 1 last, and the defendant had got similar work at Rochester, but, though notice had been given him, he was unable to find any place for his wife and child, who were still on plaintiffs' premises. The plaintiffs proceeded in the High Court, asking for an order for possession. The defendant was really only a tenant on sufferance, living upon the premises while in plaintiffs' service, paying no rent, but getting this dwelling space as part of his wage. The Acts were pleaded, but it was admitted that, even if they applied, as the company wanted the rooms for their new employee, they had a good claim to possession. The Judge held that the Acts were not applicable upon the facts of the case, and made an order for possession in a month. No legal defence could be made out, and some time had already been given by the plaintiffs. But the case does serve to emphasise the great shortage of houses in town and country and the pressing need for quicker building.

The Progressive artists of America are in revolt against the National Academy of Design, which occupies some such place in the United States as the Royal Academy here. The unrest among members of the National Academy has been growing for some years. It came to a head recently when they tried to leaven the obscurantists, and found themselves voted down and fourteen young artists they had nominated for membership all blackballed. Now the rejected fourteen and many sympathisers have formed a society of American painters, sculptors, and engravers, which will hold two exhibitions yearly, and every member will be allowed to show two pictures, both to be chosen by himself. There are to be no officers, by-laws, juries, hanging committees, or other needless people of the sort. The exhibitions are to be open to all workers, including black-and-white, water-colour, and pastels, and pictures may be in any manner or of any school. In all, twenty-eight old members of the National Academy have joined the ranks of the new Academy. It is far from

impossible that some such action may be taken here by British artists, who are by no means satisfied with the regime of the Royal Academy. If it matures, there is, at any rate, a very good title for assumption by our new "National Academy."

The school children of Springfield, Missouri, have co-operated lately in a remarkable housing programme. A group of local architects furnished designs for a thousand residences, which they laid out in a regular town-planning scheme, with streets, parks, etc. Models of these houses, on a scale of half-an-inch to the foot, were then constructed by the boys of the Springfield schools, their interest being stimulated by offers of \$500 in prizes. The work was all done at home. For the girls there was arranged a competition in interior decoration and furnishing. The result appeared in "Tiny Town," which was placed on exhibition in the local Convention Hall. To make the experiment still more realistic, the children were invited to elect for "Tiny Town" a complete municipal government. This involved an election campaign according to the orthodox pattern, including the delivery of stump speeches and the insertion of election appeals in the newspapers. The construction of "Tiny Town" is to be followed up by the carrying out, on the lines of the exhibit, of a real housing scheme which will cost hundreds of thousands of dollars.

ROYAL SOCIETY OF PAINTERS IN WATER-COLOURS.

Our sincerest condolences are tendered to the members of the Royal Society of Painters in Water-colours, and to his many other friends, on the death of its late President, Sir Ernest Albert Waterlow, R.A., on the eve of the opening of the 173rd exhibition of the Society, which occurred on Sunday night last at his residence, 1, Maresfield Gardens, Hampstead, in his seventieth year, after only a week's illness. Born in London in 1850, Sir Ernest was the eldest son of the late A. C. Waterlow, lithographer, and was a direct descendant of Antoine Waterloo, or Wateloo, of Lille, a Seventeenth Century landscape painter, who worked in conjunction with Jan Weenix. His general education was acquired at Eltham Collegiate School and at Heidelberg, and he studied art at Carey's School, Bloomsbury, and at the Royal Academy Schools, which he entered in 1872. In 1873 he won the Turner Gold Medal at the Academy schools with "A Land Storm," which was hung at Burlington House the next year. In 1887 his "Galway Gossips" was purchased by the Chantrey Trustees, and he was elected A.R.A. in 1890. In 1903 he was made R.A. and knighted in 1902. For many years Sir Ernest was closely associated with the Royal Society of Painters in Water-colours. A member in 1880, he was in 1897 chosen, in opposition to Sir E. Burne-Jones, to fill the presidential chair left vacant by the death of Sir John Gilbert. A few years ago, however, he resigned, and Mr. Alfred Parsons succeeded him. His work was almost entirely landscape, in both oil and water-colour. Among his best-known pictures are "A Sussex Homestead," "Green Pastures," "Clouds o'er the

Sea," "In the Mellow Autumn Light," "Where Early Falls the Dew," "A Tranquil Stream," "The Lonely Church," "A Moorland Road," "Forest Oaks," "Warkworth Castle," and "Hemingford Mill." His diploma work on being elected R.A. was "The Banks of the Loing." Sir Ernest Waterlow was twice married, first in 1876 to Mary Margaret Sophie (daughter of Professor Carl Hoffman), who died in 1899, and secondly in 1909 to Eleanor Marion, widow of Dr. George Sealy, of Weybridge. He leaves two sons and two daughters by his first marriage.

In this year's winter exhibition Sir Ernest has no less than twelve subjects, including "Surrey Elms" (10), "A Dew Pond on the Downs" (16), "Early Morning—Pontresina" (29), "A Farm Road—Sussex Downs" (44), "A Road—Arundel" (137), "September Noon—Sussex Downs" (150), "The Torridge, near Bideford" (143), "A Moated Grange" (157), "A Gloucestershire Farm" (161), "Midwinter—Bernese Oberland" (163), "A Brook—Chipping Camden" (213), and "Clayton Mills, Sussex" (219). All are well up to the average of his best work, and testify alike to his retention of the ability which has so often charmed visitors to the Society's exhibitions.

Mr. Alfred Parsons, R.A., the President, contributes two of his always welcome flora pieces, "Pear Tree and Buttercups" and a "Study of Delphiniums" (11 and 118), and two interesting subjects from Hawkston Park, "The Broad Walk" (13 and 41). Mr. J. Walter West, the Vice-President, sends "Sunrise at Dedham Lock" (89), "The Letter" (114), "L'Annunciade from Castellor Road, Mentone" (126), and a "Frosty Morning in October" (185). Mr. Arthur Hopkins, the Treasurer, has two pictures, the "View from Halland, Sussex" (162), and "Low Tide at Braunton" (217), both attractive. Mr. Cecil A. Hunt has seven, "The Bridge, Assisi" (69) and "Dorset Cliffs, near Lulworth" (82), claiming favourable attention. Mr. Charles Gregory's "April, near Dorking" (166) is his one exhibit, but a particularly good one. Mr. S. J. Lamorna Birch is, perhaps, most fortunate with "Sunrise on Lake Elsi, Bettws-y-Coed" (22), but his "Evening" (30) and "Among the Hills" (170) are extremely good. Mr. Hughes Stanton, A.R.A., scores best, we think, with his two Welsh scenes, "Snowdon, from Pen-y-Gwryd" (19), and "Looking on to Abersoch" (144). Of his seven, we like Mr. Robert W. Allan's "Market Morning, Darjeeling, India" (21), and "Tarbert Castle, Loch Fyne" (48).

Mr. T. M. Rooke sends an interior of St. Paul's, showing the altar and reredos (24), "The Abbey Gateway, Montacute" (32), painted for the Birmingham City Gallery, the "Bronze Doors, Westminster Abbey" (45), "Elms at Compton Wynates" (48), and "A Warrior's Rest" (160). Mr. J. C. Dollman is well to the front with all four sent, "Middleton Hill from Ditchling Beacon" (37), "Mischief" (138), "At Southeast, Sussex" (171), and "Crusoe" (224). Mr. J. H. Lorimer, R.S.A., is equally delightful with "Window Trailers" (46) and "The Copper-roofed Tower" (145). Mr. George Clausen enchants us with "Golden Sunset" (61). His other subjects are "The Roadside Inn" (73), "Hoing Wheat" (111), "Pale Sunset" (123), "Full Moon at Dawn" (132), "Stormy Evening" (186), and "Summer Sky" (207). Mr. Henry Henshall's "Her Only Friend" (65), "Hush! Hush!"

(103), "The Spinning Wheel" (184), and "The Legacy" (189) all tell their respective stories well. Mr. G. Lawrence Bulleid's "Girl in Grey" (214) is good, and so are "Sylvia" (221) and "The Odes of Horace" (172).

Among those of other contributors which should not be missed are Mr. W. Matthew Hale's "On the Way to Chioggia" (9); "A Gas Bag Factory" (70), by Mr. W. Russell Flint, R.S.W.; "Weston from Rough Isle" (88), by Mr. James Paterson, R.S.A.; "St. Teresa and the Scholar" (93), by Mr. F. Cayley Robinson; "Just Arrived," by Mr. Henry S. Tuke, R.A.; "A Quartette" (106), by Mr. Claude A. Shepperton; "A Larch Forest" (117), by Mr. J. S. Sargent, R.A.; "Love Laughing Leads the Little Feet Away" (122), by Mr. Arthur Rackham; "The Island of St. Ives, Cornwall" (140), by Mr. D. Murray Smith; "Chalk Cliffs, Sussex" (156), by Sir Harry Johnston; "Wandsworth in 1852" (223), by Mr. J. W. North, A.R.A.; and "A Trawling Skipper" (229), by Mr. W. J. Wainwright.

There is a small but well-chosen selection of works by the late Lionel Smythe, R.A.—ten subjects in all. "A Fisher Girl" (233) and "Souvenir" (235) are about the best. The exhibition will close on December 20.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new site schemes submitted to the Ministry during the week ended October 18 was 194, bringing the total number of schemes submitted to 5,460, comprising about 47,250 acres. The total number of schemes approved is 1,950, comprising about 21,850 acres. House-plan schemes representing 1,522 houses were submitted, and schemes representing 1,203 houses were approved during the week. The total number of houses represented in the schemes submitted is 41,023, and in the schemes approved is 27,486.

Negotiations on behalf of local authorities for the purchase of sites for housing were successfully completed by the Valuation Department of the Inland Revenue up to the end of September in 841 cases. The total amount asked for these sites or provisionally agreed by the local authorities to be paid was £1,366,749. The total finally agreed by the Valuation Department to be paid was £1,036,852, showing a saving of £329,897, or 23.8 per cent. The figures worked out per acre are: Asked or provisionally agreed to by the local authorities, £245; agreed to by the Valuation Department, £186; saving effected, £59.

The average cost of the non-parlour type of house for which tenders have been approved by the Ministry is £647, and for the parlour type £768. The average cost per house of all types is £704. The average cost of land for housing schemes of local authorities is £186 or more; it varies between £212 in the county boroughs and £119 in rural districts.

The annual dinner of the Institution of Sanitary Engineers will be held at the Holborn Restaurant on November 12. Reception at 6.15 p.m. Dinner at 6.45 p.m.

It costs £4,500 per annum to sweep and clean Covent Garden Market, and the Westminster City Council, who receive £2,000 for doing the work, have asked the owners of the market whether they are prepared to increase that amount to £4,500. Otherwise they cannot continue the service. In which case Mud-Salad Market will become a greater nuisance than ever!

The Rochdale Housing Committee announce that the Ministry of Health has approved of the Committee's initial scheme for building on the Spotland site. Minor alterations have been made in plans of the houses to reduce the cost somewhat. The lowest tender, that of Messrs. Ashworth and Woolfenden, was accepted, and, we understand, the price per house works out at £950. Some of the tenders were over £1,100 per house.

Our Illustrations.

SOME DECORATIVE WORKS OF THE LATE HORATIO WALTER LONSDALE.

The three plates given to-day, reproduced from four original drawings and a photograph, illustrate some of the decorative work of the late H. W. Lonsdale, of John Street, Bedford Row. The double page shows three "two-hour sketches" done at the Langham Sketching Club—"Penitence," "Conspiracy," and "War." They are executed in colour, and are only a little larger than our illustrations. The silver cup shown by the photograph and the book plate, illustrated same size as Mr. Lonsdale's black-and-white drawing, were both designed and executed for the late Marquis of Bute. The following particulars—not hitherto published—have been kindly furnished by Mr. Lonsdale's great friend and trustee, Mr. R. Willes Maddox, to accompany these illustrations. At an early date we shall publish some of the larger studies of the figure, of which Mr. Lonsdale was so accomplished a master. Mr. Lonsdale was born in Mexico, where his father held a Government appointment. When quite young, he was sent to England to school. After that he went to France and Germany to complete his education. Italian he studied after gaining the Architectural Travelling Studentship at the Royal Academy. His knowledge of these languages was so great that he was often mistaken for a native in whichever country he was travelling. He started his architectural career as a pupil of Mr. Kendles. When out of his articles, not having any work of his own to carry out, he entered the office of William Burgess, A.R.A., who soon discovered his ability to draw the figure. Together they completed a scheme for all the windows in Cork Cathedral, Lonsdale making the sketches and then the cartoons. He also carried out the mosaic pavement for the same building. About this time he likewise designed the glass and decorations for St. Mary's, Whitechapel, for Mr. E. Ayton Lee, the architect of that church. Then he was engaged on some of the decorations of Cardiff Castle for Mr. Burgess, the architect for the late Marquess of Bute. After Mr. Burgess's death he carried out the decorations of various places for his Lordship. He also designed cups and the first mayoral chain for Cardiff for him. He studied from the life at the Slade night class and at the Langham, where many of his charming two-hour drawings were made. He also went to Antwerp to practise painting from the life. Jointly with Mr. E. J. Tarver, he published in 1873 a book of "medieval costume," and was also one of the promoters of "The Architectural Association Sketch Book." He was very proficient in heraldry and perspective, and for some time acted as examiner for the latter subject at South Kensington under the Board of Education. He had a kindly disposition, and always most charitable in his judgment of others, generously placing his great knowledge at the disposal of his friends. He will be greatly missed and deeply regretted by all who knew him intimately. Mr. Lonsdale died on September 5 last at the age of 73, and was laid to rest at Teddington Cemetery during the following week.

THE OUSE AT YORK.

Lieut. Harold Coop's companion Royal Academy drawing of Lincoln Minster from "The Brayford," exhibited last summer near the accompanying pen-and-

ink picture of the River Ouse at York, appeared in our issue of September 5. That given to-day is not far from the ancient Bars or Gateways leading to the cathedral precincts through narrow old streets flanked by ancient shops and modern restaurants.

RESEARCH IN BRICKMAKING.

The preliminary examination of deposits is but a small factor in the manufacture of fire-brick. It is important to know the proportions in which the different clays shall be used for different purposes, the fineness to which they shall be ground, and the process by which the tempered mix shall be shaped. It has been the work of an Industrial Fellowship in operation at the Mellon Institute in Pittsburgh in many cases to determine these factors, the brick being manufactured at the plant according to recommendations, and tested in the laboratory in the necessary way. By such a procedure the relative density, resistance to heating and cooling, resistance to slag penetration, conductivity and refractoriness, can all be determined and the most desirable product installed in the different furnaces without the cost of plant experimentation. This has been done in the case of checker brick, sidewall brick, roof brick, blast-furnace brick, ladle brick, and bricks for general mill and factory service. Besides this form of laboratory work, considerable investigation of plant problems has been carried out at the plants themselves by R. M. Howe, the Senior Fellow in charge of the research work.

The most important of these investigations has concerned the shaping and burning of the ware. As indicated, the shaping of fire-brick was at one time purely a hand process. Later machines were installed which shaped the damp clay (dry-press), or the wet mix (soft mud), or a mixture of intermediate consistency (stiff mud). All of these processes have advantages, but there is a growing tendency in favour of the stiff-mud process. The objection to these latter brick is that they are sometimes laminated because of the friction of the column of clay on the sides of the die through which it is forced. It has been found recently that such lamination can often be removed, when objectionable, by placing the green brick on edge and completely crushing it. The product that is then formed is very similar to the hand-made product, yet can be made very rapidly by machinery. After the ware has been shaped and dried, it is then subjected to very high temperatures, or is "burned." This procedure causes it to become very hard, and of a more or less constant volume. Burning, however, requires an immense expenditure of coal, amounting to about three-quarters of a ton of fuel per 1,000 bricks. By utilising the waste heat in warming up the cold ware, this fuel expenditure may be cut in half, an economy which saves from ten to one hundred tons of coal daily at the plant. Such practice, however, requires an expenditure of considerable money and the scrapping of thousands of dollars' worth of kilns. Hence the installation of more economical kilns, although eventually probable, is yet but in its infancy. Studies of these kilns have been made by Mr. Howe and his assistants, and data are now available which concern their possible industrial applications.

Mr. J. G. Wilson has been appointed Assistant Government Architect in the Public Works Department at Cape Town. Mr. Wilson, who has been in South Africa for some years, was a pupil of Sir Aston Webb.

Several Portland cement factories in the United States which have installed plant for the recovery of potash from their fine dust are said to have recouped the capital costs during the first year of working. In 1917 about 45 per cent. of the total production of potash was derived from brines, about 10 per cent. from kelp, nearly 9 per cent. from charred molasses residues, and about 5 per cent. from cement mills. Cement mill production of potash in 1918 was equivalent to 1,429 tons of pure potassium oxide.

BRITISH HOUSE BUILDING METHODS.

By SIR CHARLES T. RUTHER, O.B.E.,
F.R.I.B.A., M.S.A.

(Hon. Examiner and Member of the Council
of the Society of Architects.)

(Continued from page 338.)

HOUSE BUILDING METHODS.

The problem with which this country to-day is faced is of such magnitude that it would appear that the law of political economy, as understood by the average individual, has, in a sense, to be thrown into the waste-paper basket.

The law of supply and demand in the pre-war sense is dead. The demand for houses is gigantic, and the supply is nil. The demand for houses is not at a price above the cost of production, but at a price far below the cost of production; hence the absence of the supply.

The demand for houses, however, has to be met, and met with rapidity. The supply of good houses must be greater than ever known in the history of this country, if consequences of grave national character are to be avoided.

The present position is rendered the more difficult on account of the fact that men have been educated, and women also, during the past ten years up to a better standard of house planning and construction. The enormous shortage of houses is, in the light of present-day educated opinion, a shortage of "good" houses. What is demanded now is not a rapid supply of dwellings containing the irreducible minimum of accommodation and of quality, but "homes" in which there is room, physical and mental room, for some of the graces and the amenities of life.

The law of political economy in pre-war days would teach that the building of houses to let at an uneconomic rent was unsound. Yet the same law would uphold the erection and maintenance of the great public institutions and claim these as a proper public service.

Political economy was right if and when the individual citizen was able to provide for himself, either alone or by the aid of private enterprise. When, however, the individual ceased to be in that position, the satisfaction of his needs in the matter of housing became a public service, and he became to an extent a charge upon the community at large, partially if not wholly.

In view of the statements contained in the preliminary and introductory portions of this paper, and the apparent utter impossibility of solving the problem of housing by pre-war methods with pre-war materials, it becomes, in my opinion, necessary to conduct a critical examination into British house-building methods, with a view to arriving at a rapid and if possible satisfactory decision upon the various essentials in connection with all methods.

Whereas in pre-war times the essentials, I imagine, would be ranged in the following order, viz.:-

- (a) Quality of building.
- (b) Cost.
- (c) Speed.

It is now necessary, I would suggest, if a grave national calamity is to be avoided, to range these essentials in quite different order, viz.:-

- (a) Speed in construction.
- (b) Weather-proof qualities.
- (c) Stability of structure.
- (d) Lasting qualities.
- (e) Cost.

English homes, that is to say the real old homes of England, have been and are, in fact, looked upon as the finest examples of domestic architecture in the world, and the real old cottage homes of our country are difficult to surpass in beauty and home-like character.

The art of home-building seems, however, to have been lost when the demands of industry called for dwellings for the great and increasing army of workers in these isles.

The materials that produced the homes of old England appear to have resented their application to the skeleton structures of modern times. The stone walls as erected generations ago stand to-day as monuments

of good house building. The materials, so far as the stone was concerned, were the same as used to-day. Perhaps, and there is little doubt, the mortar was superior to that of modern times, but the workmanship was undoubtedly better and the mass more solid, and therefore capable of withstanding the damp atmospheric conditions of our island home and of resisting the stress of ages.

The relentless call of that law of political economy brought about a continuing reduction in the body of the structure and the quality of the workmanship, and the same law demanded the curtailment of the land to be covered.

The result has been that, although we may pride ourselves upon our "stone" or "brick" houses, in very many important industrial and other areas "dry" homes are really scarcely known.

Few of the ordinary dwellings of the people erected during the last generation or two will outlast the usual leasehold tenure, and for the latter half of that tenure, in many cases, a continual outlay is required annually if the structures are to remain habitable.

The knowledge that the ground landlord may at any time during the last quarter of the tenure give a formidable schedule of dilapidations is a veritable nightmare to many a lesser, and almost effectually prevents a sale of the property within the period named, excepting at an almost nominal figure.

The main difficulties in the way of the solution of the present grave problem of housing shortage may, I think, be tabulated under three distinct heads, viz.:-

- (a) The well recognised slow progress of building according to ordinary British methods.
- (b) The proved incapacity of existing agencies to provide the necessary labour and materials, so that the work may be undertaken in a sufficiently comprehensive and rapid fashion.
- (c) The increasing costs of old-fashioned British building methods.

The architects of this country are, in my opinion, bound to consider whether some methods other than the stereotyped British methods cannot be adopted, in order that rapid, dry, and reasonably permanent homes may be erected for the immediate needs of the people.

I have been considering very seriously for the past twelve months whether the systems of building adopted for generations in America and Canada cannot be adopted in our country. I have been assured by an eminent American architect with whom I have discussed this subject recently, that over 75 per cent. of the private houses in his country are erected with timber as the material for the main structure.

Thousands of very fine houses constructed in this manner in the great American continent have lasted satisfactorily a period equal to the life of the vast majority of the brick and stone houses in this country.

The consideration I have given this matter, and the information I have been able to collect upon American methods, impressed me with the determination to bring forward a proposal that in these serious days of housing famine in this country an attempt should be made in the national interest to break down the prejudice against the timber-frame building.

Further, I determined to design and erect three houses, adopting in the main the principle found to be highly satisfactory in America, but adapting the construction, design, and finish to suit the tastes of the British people.

It is, I think, a well-known fact that the general weather conditions in the American continent are far more severe than those experienced in this country. We do not meet with "80-mile gales" or torrential deluges lasting frequently several continuous days and nights, but we have in many parts of this country very moist and penetrating atmospheric conditions.

Dealing with the question of the life of a structure—for most people ask the question "How long will the house last?"—it must be admitted that the life of a dwelling house is its "habitable life," not the longest period during which the walls will stand without falling and the roof "hang together" without dropping. The life of a dwelling house is exactly the period it will remain properly cared for, suitable for the "home" of a human being.

A very casual study of the favourite types of British artisans' houses will indicate that the materials used for the shell of the structures are to a greater or lesser extent porous.

Damp and unhealthy houses are the natural result of the use of materials of a porous nature for the external shell of the structures. It is often suggested that damp walls are due to the use of inferior mortar, and although this may be true to an extent, there can be no doubt that the damp, musty dwellings of the people are the direct outcome of the use of porous materials and thin walls. The porosity of the building materials in olden times was not of such great consequence because of the great body of the mass contained in the outer shell of the structures. Just as engineering science will teach us that ordinary sea-water beach sand, if used in an embankment and exceeds 100 ft. in width, forms a water-tight wall, so there is a limit to the penetrating ability of moisture through the pores of the ordinary British building materials.

It must be remembered also that in the very thick walls of old erections frequently only the external face (to a depth of perhaps 18 in. or thereabouts) was bedded in mortar, and the remaining thicknesses consisted in the main of dry, closely packed walling. The continuous passage of the moisture from the external to the internal faces became in this way very difficult, if not impossible.

It is unnecessary for me to put before the members of the Society of Architects facts to prove that solid walls of the thicknesses usually adopted in the erection of ordinary dwelling houses in many parts of this country do not ensure dry homes. In many parts I could mention where a thoroughly well-built 20-inch rubble stone wall or a good 14-inch brick wall do not produce a house nearly so dry as the ordinary army hut will provide. There is certainly solidity and strength, but dry walls are practically unknown. The moisture contained within the masonry or brickwork being drawn within the dwellings, rots the joinery, the joists and other timbers, spoils the wall-papers, and makes the home musty and extremely unhealthy.

A few remarks upon the relative quality of stones and bricks from the point of view of their absorption of water may be of interest.

The following figures indicate the bulk of water absorbed in twenty-four hours as compared with the bulk of stone per cent.:-

Good granite and Syenite	.....	1	per cent.
Indifferent specimens	.....	3	"
Inferior specimens	.....	3	"
Sandstones—			
Craigleith	.....	8	"
Park Spigg	.....	8	"
Heddon	.....	10	"
Mansfield	.....	10	"
Hassock	.....	20	"
Limestones—			
Marble	.....	Just a trace	
Portland	.....	13.5	per cent.
Ancaster	.....	16.6	"
Bath (Boxground)	.....	17	"
Ketton	.....	15.1	"
Roche Abbey	.....	17.2	"
Kent rag	.....	11	"
Artificial Stones (various)	from 7.5	per cent. to 12	per cent.

Insufficiently burned bricks absorb a large proportion of water, and decay very rapidly. The proportion of water that a brick will absorb is a very good indication of its quality. A good brick should not absorb more than one-fifteenth of its weight of water. The average brick, however, absorbs about one-sixth of its weight, whereas highly vitrified bricks absorb as little as one-fifteenth.

The following figures give the bulk of water absorbed by various kinds of bricks, as compared with the bulk of brick per cent.:-

Malm cutters	.....	22	per cent.
Malm shippers	.....	8.5	"
Common grey stocks	.....	10.4	"
Common hard stocks	.....	7.1	"
Staffordshire dressed blue	.....	2.3	"
Staffordshire bastard	.....	11.8	"
Machine-made red	.....	9.9	"
Wire-cut White Gault	.....	19	"
Brown glazed brick	.....	8.6	"

Hollow walls have been, of late years, very universally adopted, and are successful to an extent depending upon the care exercised in construction.

To-day the need of some new system is forced upon us, not only because of the unsatisfactory nature of old system, but on account of the need for rapid and, if possible, cheaper building.

If a new system of building can be adopted that will be rapid, weatherproof, strong, lasting, and cheap, that system should be embraced and carried into execution immediately.

The vital point in construction, or perhaps more properly termed "finish" in the house erected at Newton, is the material used for the exterior covering of the timber-frame structure.

Much has appeared in the Press of this country during the past few weeks upon the subject of the houses erected at Newton, and the general discussion, as a result of this publicity, has been centred around the subject of "wooden" house building, and to an extent has been somewhat harmful to any new system of house construction.

The general impression conveyed to the minds of the public by many powerful newspaper paragraphs, and more fully emphasised by the published illustrations of typical Canadian houses, is that not only are the houses proposed by me to be erected in this country wooden houses in structure, but also wooden houses in finish. That is to say, the framework being of timber and external covering also of timber.

The obvious objections raised by the average Britisher to this type of house are its temporary appearance, the suggestion of lack of permanency, and the flimsy character generally. There is also the obvious necessity for continual expense and attention to the external covering for the prolongation of the life of the structure, added to the very obvious increased danger in case of fire.

There is, I think, a great deal of deception necessary in building houses as in the manufacture of other articles. It is not so much a question of what an article is in fact as a question of what it appears. I feel satisfied that British people will never take kindly to a home which is wooden in construction and wooden in appearance, apart altogether from the considerations of permanency, weather-proof qualities, and risk from fire.

Jewellery which is in fact brass, and looks brass, would not be a very marketable commodity, but the same articles which appear to be gold, and are in fact gold-cased, but in body are brass, will always find a ready sale to those who cannot afford the solid and richer metal.

Therefore, if I may be allowed to use this not altogether satisfactory simile, the wooden house which is not only wooden but looks wooden will not be taken to kindly by the British people. Whereas the house which is timber-framed, and is encased upon the exterior with a thoroughly satisfactory, impervious and fireproof material will meet the wishes and supply the needs of the people, and will, I feel sure, be accepted gratefully and without question.

DETAILS OF CONSTRUCTION.

In order to place before the members full details of the construction adopted in the houses erected at Newton, I have prepared to accompany this paper several sheets of detail of the various types erected.

The foundations in every case have been prepared in brickwork so as to bring the sole-pieces of the wooden framework well above the ground level, and a bitumen damp-proof course has been laid upon the brick foundations. The entire site has been covered in each case with a layer of cement concrete.

The sole-pieces are then laid, and upon these the skeleton framework is erected. The main structure consists of 4-in. by 2-in. pieces erected to 16-in. centres, and these are properly braced in the manner shown upon the details, with 4-in. by 2-in. stuff.

The floor joists and roof timbers are exactly as they would be in an ordinary brick house.

The "feet" of all the uprights and the sole-pieces are coated with a satisfactory preservative material.

The necessary timbers forming the door and window openings, and for the purpose of carrying the floor joists and roof timbers, are, of course, included in the general skeleton structure as shown upon the drawings, and the final result is a rigid and powerful wooden skeleton.

In my opinion, up to this point there is nothing original or strange. Skeleton structures of this type have been erected in this

country and all the world over for ages, boarding upon the outside and lathing and plastering upon the inside would provide simply a "wooden" house and no more.

The description of the important process towards the completion of the dwelling house has to come, and in this I propose to explain the methods adopted by our professional brethren upon the other side of the Atlantic.

Upon the outside of the timber studding is applied a manufacture known as Bishopric Stucco Board, obtainable in large rolls 48 inches long, and consisting of three distinct materials.

The first material is a fibrous board, upon which the second material, a thick layer of asphalt mastic, has been applied, in which mastic the third material (hereafter described) is embedded under great pressure.

The third material before referred to consists of wooden dovetailed laths. These laths are one and three-eighths inches wide, and three-eighths of an inch in thickness, and are embedded in the asphalt mastic at five-eighths of an inch distance apart.

This shield (as I propose to term the Bishopric Stucco Board) is then carefully unrolled vertically against the timber studding of the skeleton structure, breaking joint upon the centre of the upright studding.

The fibrous board being next to the studding, and the dovetailed lathing outside, this shield is then firmly nailed to the studding of the structure, one long wire nail being used to nail each lath at the points bearing upon the studding. Each dovetailed lath (in its 48-in. length) would therefore be nailed to the studding with four wire nails.

We have now completed what one may term the second process in the erection of the shell of the structure, and have up to this point obtained a very stiff and rigid structure, capable of withstanding any wind pressure.

In addition, if the shield is properly fixed, we have a perfectly damp-proof, vermin-proof, and warm structure. In fact, the inventor claims that the thick layer of asphalt mastic applied to the face of the fibrous board is also fireproof. This may or may not be so, but as the entire shell is not completed I do not propose to debate this point.

What one may term the third process in the erection of the shell has now to come, and in my opinion this last process is the most important from the point of view of the final production of a good, healthy, and artistic home.

In many parts of the American continent the final process consists of the nailing of weather boards upon the outside of the shield as described above, but in this mode of finish one has the external wooden appearance and the continual expense of maintenance, and for these reasons, in my opinion, this method of finish is not satisfactory for this country.

In the house erected at Newton, as in the case of the houses erected in America, as illustrated cement plaster has been applied to form the external finish, and the final appearance is identical with that of an ordinary brick house with cement stucco applied on the external faces.

The cement plaster must be of good quality, and must be applied in two distinct coats, the first filling in between the dovetailed laths and forming a "skin" over the face of the laths, and the second coat being of similar rich mixture, and finished in the ordinary stucco manner. The total thickness of the cement plaster upon the face of the laths would be about $\frac{1}{2}$ in.

A few notes upon the use of the shield and upon the preparation and application of the stucco may be of interest to the members in case it may fall to their lot to adopt this or a similar form of construction.

The Shield—Care of the Material

It is necessary that the shield (the Bishopric Stucco Board), which is received in large rolls, should be kept dry. This material should be put under cover promptly upon arrival at the site of the works. When applied to the wooden studding of the building, it should be nailed upon the studding (in the manner already fully described) as rapidly as possible. When once thoroughly nailed upon the framework skeleton, it is not in anyway injured by wet weather. Should the weather be fine during the fixing and completion of

the shield material, the shield should be sprinkled with water before the cement stucco is applied.

The Application of the Shield.—The shield material should be fixed as already explained, with the lathing horizontally.

Cutting the Shield Material.—When cutting across the lath strips a sharp saw should be used, the sheets of the shield material being laid upon a bench for the purpose of cutting. Clean cuts should always be obtained, so that tight vertical joints may be obtained when the material is fixed upon the studding. For lengthwise cutting, a coarse rip-saw should be used between the lath strips, cutting being carried out from the lath side of the material.

Nailing the Shield to the Studding.—If the shield is nailed as already explained to the studding there will be no possibility of the laths buckling or warping. Wire nails of sufficient length should always be used, certainly not less than 2 in. long.

Breaking Joints in the Shields.—The joints of the shield should be broken at least every four feet thereby avoiding continuous joints and adding greater strength and rigidity to the structure.

THE CEMENT STUCCO.

For the cement stucco, only best quality Portland cement should be used.

In American stucco work (which, I may add, is the very finest class of work I have yet seen) hydrated lime of approved quality is mixed with the cement.

All sand used should be free from loam, salt, vegetable, or other deleterious matter, should be angular and sharp, and, if necessary, should be washed.

I feel sure that not nearly sufficient attention is paid to our mortars and plasters. If first quality cement is used, and the aggregate is clean and sharp and the proportions proper, there is really no reason why first quality work should not be obtained.

The mixture as used in America is as follows, viz.:—One part of hydrated lime is mixed dry with ten parts of cement, both being thoroughly incorporated until of perfectly even and uniform colour. Then one part of this mixture to two and a-half parts of dry sand, with a sufficient quantity of water added to give a good stiff mortar.

Application of Stucco.—Apply the first coat to the shield under pressure to ensure the filling of the dove-tailed keys upon the extended face, trowelling as little as possible. Cross-scratch this coat deeply and thoroughly. This first coat should be five-eighths of an inch in thickness, and should be kept wet from the second day for seven days before the application of the second coat.

For the second coat use the same mixture as before and apply in the same manner, omitting the scratching. Stipple or float this coat at the time of application.

For extra good work a third coat is applied not less than one-quarter of an inch in thickness, this coat being carried on continuously in one direction, without allowing the mortar to dry-out at the edge.

SURFACE FINISHES.

There are numerous forms of surface finishes, viz.:—

Smooth Trowelled.—Finishing coat to be smoothed with a clean metal trowel with as little rubbing as possible.

Stippled.—Finishing coat shall be smoothed with a clean metal trowel with as little rubbing as possible, then shall be lightly patted with a brush of broom straw to give an even stippled face.

Floats.—Finishing coat, after being brought to a smooth and even surface, shall be rubbed in a circular motion with a wooden float. This floating must be done when the mortar is partially set, and a little sand should be used to slightly roughen the surface.

Rough coat.—After the finishing coat has been brought to an even surface, and before attaining its final set, it shall be uniformly coated with a mixture of one part white cement to two parts of white sand thrown forcibly against the wall in such a manner as will produce a rough surface of uniform texture.

Pebble dash.—After the finishing coat has been brought to an even surface, and before

attaining its initial set, clean pebbles or crushed stone shall be forcibly thrown against the mortar and imbedded therein.

Pebbles should vary in size from $\frac{1}{4}$ in. to $\frac{1}{2}$ in., should be well wetted before being cast against the wall, and should be uniformly distributed over the surface. They should be pressed into the surface with a clean wooden trowel, but the surface should not otherwise be disturbed.

I have attempted in this paper to present to the members a concise *resumé* of the housing problem of to-day as it appears to me, and have further indicated as nearly as I find it possible, the facilities in the shape of building labour, materials and methods based upon pre-war conceptions and ideas, which it appears to me are available, subject to proper and efficient organisation and control, for an attempt to solve this problem.

I am very strongly of the opinion that the housing problem cannot be solved by the adoption of British house building methods of pre-war days, and that some other method must be adopted to cope with the existing emergency. Whether the system adopted so extensively in America, and set out fully in this paper, will be considered as satisfactory or not, does not interest me to any particular extent. If the attempt I have made in this effort to put before the members of the Society of Architects is successful to the extent that some other and more rapid and, if possible, more satisfactory method of house building is adopted in this country, I shall feel that I have rendered some little service in the cause of housing in this country.

I think it necessary to explain that the site selected for the erection of the houses at Newton was so selected because of its exposed character. These specimen houses are erected some two or three hundred feet above the level of the waters of the Bristol Channel, and are fully exposed to the prevailing westerly gales.

I consider that many newspaper paragraphs upon the subject of cheap wooden houses, peculiar to Canada, have been very misleading, particularly upon the subject of cost. I have received many scores of letters asking for particulars of the system adopted at Newton, but, unfortunately, quite a number of correspondents have confused my houses with some illustrated in the Press, and a published statement that such can be erected for £300. One may quite imagine the rush there is for a house or bungalow containing six or seven rooms at a cost of £300. Proper houses containing such accommodation cannot be erected in this country to-day for anything like that figure.

For the benefit of those who are sceptical upon the subject of this principle of house building, I give a number of illustrations from actual photographs, showing types of American residences, etc., erected in a manner identical in construction to that applied in the erection of the house at Newton before referred to.

In making this selection I have borne in mind the general impression in this country that whereas wooden frame buildings may be quite all right for houses of the bungalow type, such a principle is not used, and indeed is not considered satisfactory for buildings of more than one floor.

To architects the general method or principle is not new in any sense, excepting as applied to residences of the ordinary kind and similar buildings, and but for that rooted objection in this country to any new form of construction (only too well-known to advocates of reinforced concrete construction)—the building system of the future, in my opinion) such a method would undoubtedly have been in use long ago. Public opinion would very rapidly have influenced the authorities upon the subject of the bye-laws.

The London County Council proposes to seek legislation to secure the prohibition of house-building on low-lying land liable to flood-fog.

Sir Gilbert Cloughton, chairman of the L. and N.W. Railway Company, cut the first sod at Crewe last Saturday of one of Crewe's new suburbs to be built on garden-city lines. It is intended to build 750 houses at Crewe, to be divided into three suburbs, at a cost of about £350,000. The scheme provides for bowling greens and recreation grounds.

THEATRE-DESIGN.

It is to be hoped, writes "H. B." in the *Manchester Guardian*, and we are disposed to agree with him, that due efforts towards the reform of the theatre will not be limited only to the performance, but will include the building itself. For some strange reason theatre designing in England has for a considerable period failed to attract the more prominent members of the architectural profession. Of the late sixteenth and early seventeenth century theatres, the one about which most is known is probably the Fortune Theatre. The plan is that of an open courtyard surrounded by an arcade or cloister, above which is a gallery. Over the stage, which projects into the courtyard, is a canopy, crowned by a picturesque turret. To the rear of the stage proper is an upper stage which served for battlements or balconies. Attempts have been made towards the revival of this upper stage from time to time, but it is generally realised that, as it is only suitable for certain performances, it is better to rely upon mechanical means to obtain the same effect. Most modern theatres contain the elements of these two types, combined in various ways, but for the most part the plan of the auditorium owes its origin to classic forms, whilst the arrangement of the tiers of galleries and balconies is based on the courtyard theatre. The horse-shoe plan was the outcome of a desire to increase the auditorium beyond the limitations naturally imposed by the size of the proscenium arch, and incidentally afforded the wealthier patrons that opportunity for gazing at each other which constituted so often their sole object in visiting the theatre. But in a building where the entire performance takes place behind the proscenium opening the arrangement is both unsatisfactory and illogical.

The tendency of the new method of theatre-design is to reverse the combination of these two elements. While the plan is becoming more square, after the courtyard type, the seats are placed on one continuous rake, after the manner of the amphitheatres of antiquity. And this is probably the logical method of planning an auditorium to suit present-day requirements.

One of the first theatres to be built on this plan was Wagner's opera house at Bayreuth, and all who have visited it are unanimous in their opinion as to the excellency of vision and acoustics obtained from any position in the house. The decoration, too, which in a theatre constructed on these lines is capable of a more dignified treatment, is not without merit, although poor in detail. But that Wagner was fully aware of the necessity of subordinating the decoration to the function for which the theatre is built is apparent from his own words, for, speaking of the project, he said: "Here a theatre was to be erected as simple as possible . . . and calculated solely for the artistic fitness of its interior; a plan for this, with an amphitheatre, auditorium, and the great advantage of an invisible orchestra, I had discussed with an eminent and experienced architect."

Many theatres have since been built on similar lines, chiefly in Germany, of which the best known is the Kunstler Theatre at Munich, which was designed by Professor Littmann. It is probably one of the most successful small theatres in Europe. Square in plan, with a gently rising floor of seats in slightly curved rows, the impression in the auditorium is one of perfect repose, and it owes this effect not a little to this successful grouping of the seats.

Many reforms are necessary on the stage, and of these none is more vital than that which deals with lighting, and it is interesting to note that this fact was realised in some quarters as far back as 1790, when a "Treatise on Theatres" was written by George Smiles, in which the author says: "Monsieur Patte has proposed a method to light the *avant-scène* without that tormenting line of lamps at the front of the stage, which wrecks everything it illuminates." A system invented by an Italian, M. Fortuny, forms the basis for most of the subsequent schemes of lighting which dispense with the footlight. By its means, live atmospheric

effects can be obtained, and, furthermore, it can, in conjunction with modern staging, which dispenses with sky drops, ground rows, and drop curtains, be used to control the entire colour scheme of the scene. With regard to the mechanical equipment of the stage—the main object to be achieved is that of rapid change of setting and a system by which built-up scenes can be speedily set—the method of achievement is determined by various considerations, such as the cost, the size of the building, and the shape of the site, and is subject to continual improvement and readjustment, in line with the discoveries and inventions of modern science.

THE ELIMINATION OF THE COAL RANGE.

The conference in connection with the British Commercial Gas Association was held on Wednesday at the Central Hall, Westminster, under the presidency of Lord Moulton. Two addresses were delivered on "Practical Housing Schemes" in the course of the morning's session.

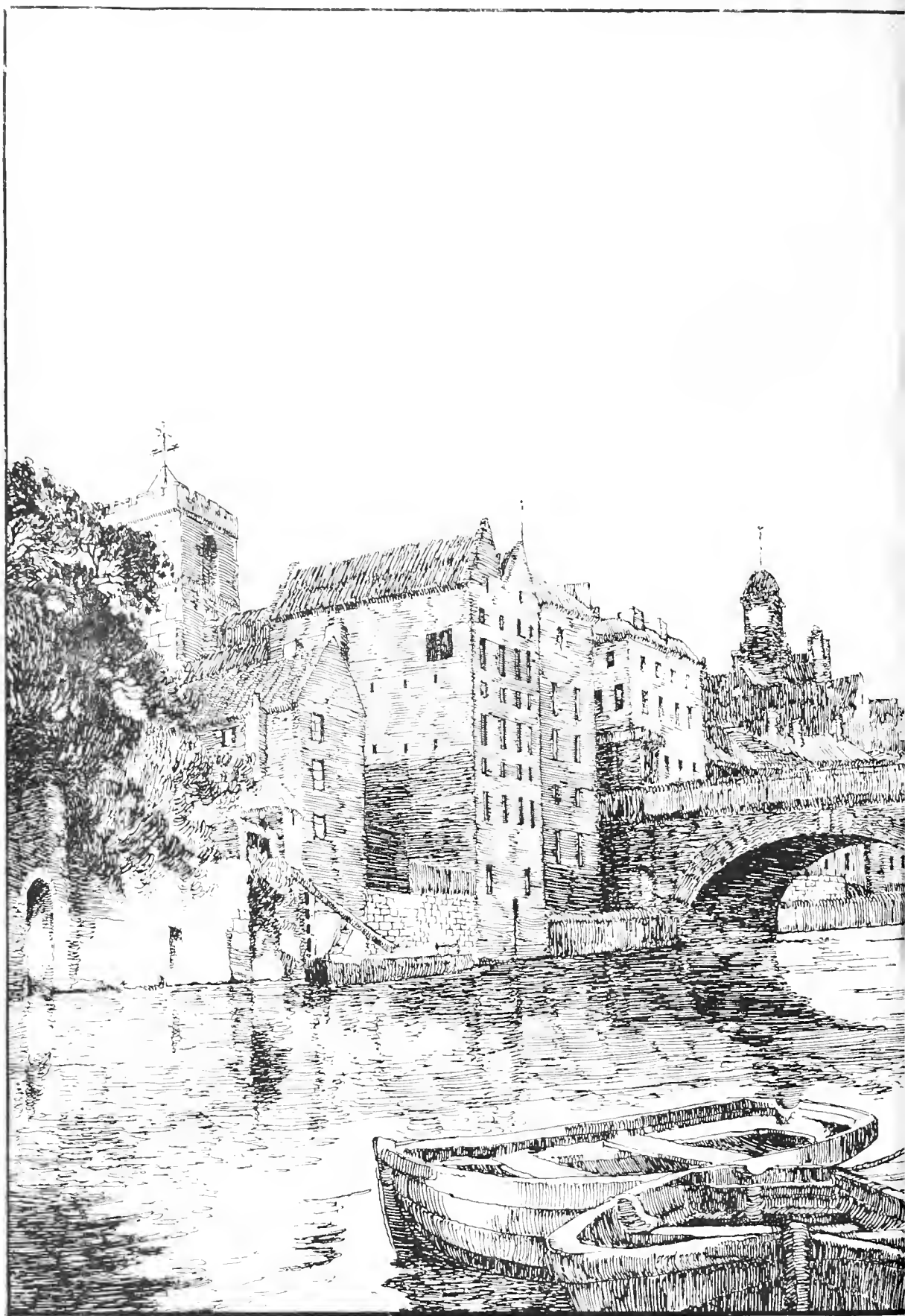
The first speaker, Mr. Edwin J. Sadgrove (President of the Society of Architects) treated the subject from a professional point of view. An architect's aim, he said, was to secure for the occupier of the homes of the future, within the space and the means available, the maximum of usefulness, convenience, and comfort, with the most pleasing effect to the eye within and without. To achieve that he maintained that there were four fundamental points to consider. There was the question of the cooking of the meals, keeping the house clean, warmth, and lighting. The present coal range was an antiquated and inefficient apparatus, suitable alone to a museum. He thought it was high time that the plans of future houses should leave it out. He suggested an open fireplace in the kitchen, behind which a boiler should be placed, and thus water would automatically be heated and conveyed to the cistern. In addition, he recommended the installation of a gas-heated boiler connected with the same circulating system, so that when no fire was required hot water could be obtained. Electricity, he emphatically stated, could not be recommended for use as fuel either on national or upon the grounds of efficiency and cost. He also considered that central heating arrangements were unsuitable for this country. For bedrooms and the parlour the most convenient and economical heating was that by gas fires, and for the living room a solid fuel fire. For those to whom cost was a prime consideration he suggested the use of gas rather than electricity for lighting as well as fuel.

Mr. H. H. Creasey (consulting expert to the Association) spoke on the question from the standpoint of the supplier and consumer of gas. The economical plan for parlours and bedrooms would be to provide, instead of coal grates, gas grates known as "built-in" gas fires, to be set against the wall with tiled backings, the flue outlets discharging into ventilating shafts constructed in the thickness of the wall.

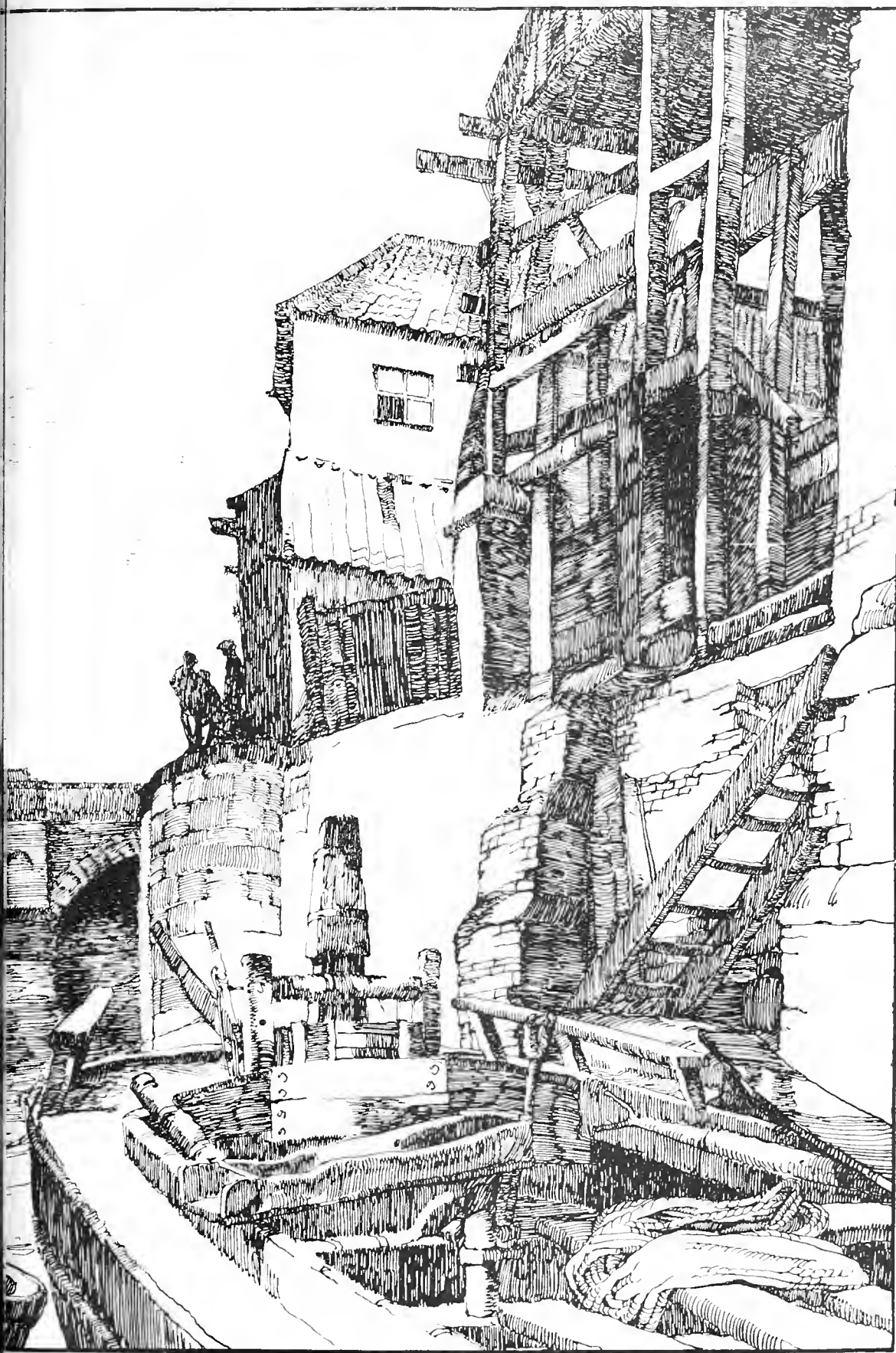
Mr. F. W. Goodenough, in moving a vote of thanks to the speakers, stated that Sir James Carmichael, the Director-General of Housing, had authorised him to say that any variation permitted by local authorities in respect of the standard specification of the Ministry of Health in connection with the use of chimney breasts, flues, pipes, and also of the capacity of hot water tanks, would be dealt with sympathetically by the Ministry and would not necessarily vitiate schemes put forward.

Marlborough College has decided that its permanent memorial shall take the form of a memorial hall. A suggested site is the paddock below the chapel in Bath Road. The estimated cost of the proposed building at current prices is £35,000, and the subscriptions at present stand at £25,000.

At New College, Oxford, there will be an election to a Fellowship in Classical Archaeology in January, 1920. Applicants should send in their names to the Warden not later than December 1. Conditions and particulars will be found in the *Oxford University Gazette* of October 22.



THE OUSE, YORK : A PEN DRAWING BY LIEU



T HAROLD COOP. From the Royal Academy, 1910.



THE BUILDING NEWS, OCTOBER 31, 1919.





"PENITENCE," "CONSPIRACY," AND "WAR."
TWO-HOUR WATER-COLOUR SKETCHES MADE AT THE LANGHAM CLUB BY THE LATE H. W. LONSDALE.



A SILVER CUP FOR THE LATE MARQUIS OF BUTE.
Designed by H. W. LONSDALE.

THE GOVERNMENT AND HOUSING.

[The facts in the following communication, which appeared in yesterday's *Times*, are of course, not new, but they are marshalled with such force and precision, and by so trustworthy an authority, that we trust some good may result from their consideration by the Government. We have urged them year after year fruitlessly.]

It seems to me to have been forgotten that there was once an industry which consisted of building houses to let or sell.

The builder who carried on the trade was called a speculative builder; but, nevertheless, it was an industry, and an important one. Besides, it had become a very valuable asset to the community in recent years, when stringent by-laws and efficient district and local surveyors secured the erection of healthy buildings.

The Government, having ruined the speculative builder by the Finance (1909-10) Act, have now taken upon themselves to carry on the industry which they forced him to abandon, and in the process they prevent any revival of the industry, for competition with a great Government Department would be hopeless.

The important question is whether the Government are likely by their housing scheme to meet the demand for houses which would have been met by the speculative builders whose place they have taken.

The Government estimated that the deficiency of houses amounted to about a million, and they are not far out in their calculation. They probably arrived at the figure in this way. In 1910 the number of houses built per annum was, in round figures, 140,000. That number dropped to about 40,000 very soon after the passing of the Finance Act, which was intended to increase it by the development of towns.

Assuming that something short of 40,000 houses a year continued to be built during the period of the war or during a part of the time, there was a deficiency of at least 100,000 houses per annum for nine years. The million figure is therefore easily reached.

According to the last announcement of the Government as to their progress in this latest industry taken over by them, I think it was said that one house had been completed, and that about 30,000 houses were in course of erection. The result, therefore, is that not only are the Government not making up for the existing shortage, but are failing to keep pace even with the current supply as it existed in 1910, which the Finance Act was passed to increase. The shortage, therefore, remains, and is rapidly increasing.

It seems to me that when an industry has been destroyed the natural method is not to set up a Government Department in competition, but to adopt some system of subsidy to revive it. That the industry must be revived is obvious, and without delay, to prevent the rapidly increasing shortage which, if allowed to continue, will result in a state of affairs infinitely worse than anything which exists at the present time.

I do not propose to deal with the method adopted to finance the scheme, which I think is the chief cause of its failure. I would merely point out that by the process of making the local authorities find the money (except the amount of a penny rate), which money they are driven to borrow from their bankers, the Government are providing for an outlet for money at a high rate of interest when they wish to borrow for Imperial purposes at a low rate; in fact, they are competing with themselves in borrowing money and with the speculative builders in building the houses.

Progress, therefore, with the scheme, involving as it will hundreds of millions of pounds, must either fail, or in proportion as it succeeds in supplying houses produce an increasingly serious financial position.

The houses also when built cannot be let at economic rents if they are to be of any use to the workmen for whom they are primarily intended.

The Finance (1909-10) Act, which was the initial cause of the shortage of houses (as I pointed out in my letter to *The Times* of March 31), is still unrepealed, though Mr. Bonar-Law announced in May of this year that it had been found to be unworkable.

He might with advantage now add that the Housing, Town Planning, etc., Act, 1919, has also been found to be unworkable.

A. A. HUDSON.

5. Paper Buildings, Temple, E.C., Oct. 23.

CRACKS IN RICH AND LEAN CONCRETE.

That rich concrete cracks more readily than lean is probably the opinion of many engineers. The explanation is not hard to find. Tests have shown an increasing expansion, due to temperature and moisture, with an increasing proportion of cement in a mortar. Observation is common that the rich cement-mortar finish of a decade ago soon shows a multitude of map-cracks and, later, more serious disintegration. On the basis both of tests and observation, the general deduction given above has been easy. In spite of this, however, it is pointed out by several engineers that the application of the principle to commercial concrete work is not justified by any serious laboratory or service tests; and, indeed, the richest concrete consistently used in any number of structures—the 1:2/3:4/3 mixture of the U.S. Government concrete ships—is singularly free from cracking.

In view of its important bearing on road design, *Engineering News-Record* recently sent out a questionnaire dealing with the subject to a number of engineers who have been prominent in that branch of construction. A number of replies are printed, and, while many of them show some experimentation, no well-developed foundation was elicited for the statement that there was a greater tendency to crack in the richer mixtures. A lack of experimental knowledge with reference to cracks in concrete is apparent; and it is stated that several of the engineers to whom the question was sent frankly said in reply that they knew of no reliable data upon which to base conclusions as to the cracking of concrete in foundations or in pavements. On the whole, there seems to be an opinion that the mixtures for concrete roads should not be weakened in cement content.—*Engineering News-Record*, Sept. 11, 1919.

MAXIMUM SIZE OF HOUSES.

The question of cost and its relation to the maximum size of houses in State-aided schemes has frequently arisen, and it may be well to outline the policy that is being adopted by the Ministry in this respect.

The Ministry's views as to desirable sizes are expressed in the model plans at the end of the "Manual on the Preparation of State-Aided Housing Schemes" (1919). These plans are divided into the three principal classes:—A, B, B4. It will be found that the areas of the largest representatives of these classes are respectively 578, 625, and 650 square feet.

It is considered that these areas give ample scope for freedom of design, and, in view of the present abnormal cost of building, they must be regarded as maxima. Architects should, therefore, satisfy themselves, before they submit drawings for approval, that their plans do not exceed these dimensions. In parlour houses the living room need not contain more than 160 square feet.

In the case of stone walls, allowance may be made for the extra thickness of the walling, as compared with the 11-in. walls shown on the model plans, and in cases where the two floors are not of the same area, the areas of the two floors, when added together, should not exceed twice the above maximum areas. The central passageways in blocks of more than two houses, and the extra space on the first floor necessitated thereby, are not included in these areas.

It must be emphasised that while these areas are the largest that can be considered, every effort should be made to effect savings on them by keeping rooms down to the minimum areas given in the Manual and by exercising the utmost economy in the general design.

Camberwell is suffering from an epidemic of fallen ceilings, the result, it is said, of the air raids and the vibration of motor omnibuses.

Correspondence.

CONCRETE SLABS FOR CHIMNEY FLUES.

To the Editor of THE BUILDING NEWS.

Sir,—Now that concrete slabs are being used largely in the construction of walls for cottages built under housing schemes, it would be of much practical value if your readers would give their experience of the employment of this material in the erection of chimney breasts containing flues.

If concrete, composed of four parts fine beach stones, two parts land sand, and one of Portland cement were made into slabs, and chimney breasts and flues, subject to very considerable heat, were built of such slabs, would the beach stones fly to pieces and wreck the concrete? My own opinion is that the aggregate should be broken brick or clinkers which have been through the fire, but I shall be glad to know the experience of others.—I am, etc.,

WM. CHAPMAN FIELD, M.S.A.,
Borough Building Surveyor, Eastbourne,
Town Hall, Eastbourne.

STATUES, MEMORIALS, etc.

STRATFORD-ON-AVON.—A war memorial in connection with the King Edward Grammar School at Stratford, which Shakespeare attended, is proposed in an artistic brochure issued by the governors. The scheme is to erect new buildings on a site near the Avon, so as to provide for a much-needed extension and to fit the school out as a modern institution enabling students to proceed direct to the Universities, or to complete the technical training for an industrial career. It is estimated that a capital sum of not less than a quarter of a million is required for building and equipment.

MR. A. J. BALFOUR AND WHITTINGHAM WAR MEMORIAL.—A meeting has been held in Whittingham, summoned by the Right Hon. A. J. Balfour, to consider as to the erection of a local war memorial. Mr. Balfour said more than £20 had been collected in the parish towards the county memorial. Altogether £190 had been subscribed for this special purpose, so that the proportion given by Whittingham was very gratifying. If, as seemed likely, the county memorial did not become a reality, this £20 would be returned, and the subscribers might perhaps be willing to transfer the amount to the fund for the local memorial. In some places there was a kind of little war proceeding as regards the nature and form a memorial should take. There would no doubt be differences of opinion in Whittingham, but he was sure these would never rise to the level of a quarrel. He suggested that a general committee, representative of the parish, be appointed to arrange for a collection, and also decide as to the form and character of the memorial. This was unanimously agreed to, Miss Balfour being appointed convener.

COMPETITION.

HIGH WYCOMBE AND DISTRICT WAR MEMORIAL COMPETITION.—The Committee of the High Wycombe Hospital have received and adopted the report of the assessor, Mr. W. A. Pite, F.R.I.B.A., who has awarded the first premium of £50 to Messrs. G. Horace Cubitt, A.R.I.B.A., and Wallace Marchmont, Licentiate R.I.B.A., of Staple Inn, and the second premium of £25 to Mr. Arthur Kenyon, A.R.I.B.A., of Russell Road, Kensington. Seven sets of designs were received, which will shortly be placed on exhibition.

Mrs. Lyle, wife of Mr. Leonard Lyle, M.P., on Saturday opened St. Barnabas Church Memorial Hall, West Silvertown, which has been erected at a cost of £4,000 to take the place of the building destroyed in the Silver town explosion.

Opening a congress of salaried workers, called by the Professional Workers' Federation, at the Memorial Hall last Saturday, Lord Burnham said the real victims of the social and industrial catastrophe of the war were the man in the black coat and the woman who had to keep up appearances.

THE TIMBERS OF INDIA.

An interesting brochure by Mr. Alexander Howard on the timbers of India, just published by William Rider and Son, 8-11, Paternoster Row, E.C.4, at half-a-crown, pertinently prefaces a very interesting illustrated review of the vast timber reserves of our great dependency with some pregnant facts.

India possesses, says Mr. Howard, alike in the plains, the hill country, and the mountainous region of the Himalaya, a wealth of timber trees, the value of which, though probably unsurpassed in any other country in the world, is almost entirely unknown and unrecognised commercially in the United Kingdom. If the average man, accustomed to use timber, was asked what Indian woods there were, he would probably answer "teak," and few could be found who knew anything further. Besides the familiar British species such as oak, ash, elm, and walnut, grow the deodar (or Himalayan cedar), sal, sissoo, eug, and a host of others, mighty in size, beautiful in habit, and valuable in possibility for the timber which they produce. These woods range from the strong, hard, and heavy type, eminently fitted for constructional work, to those of beautiful colouring and fine texture, worthy of the most delicate craft of the cabinet-maker. As a complement to these natural assets, India is fortunate in having an excellent system of forest conservation, for since the middle of the 19th century a Forestry Department has been set up as a branch of the administration in every province. By the work of this Department the balance of scientific research and practical application of theory results in a perfect forest system.

England, on the other hand, while having ample educational and research facilities, lacks the same field for practical experiment which India possesses. A similar situation exists with regard to America. Here also the science of forestry has attained a high level, but little development occurs in the actual timber area.

Why is it, then, that India's immense wealth of valuable timber is so little known or appreciated in the European market? Laslett, writing in 1875, spoke of "Pyengadu" (*Xylia dolabriformis*), Padouk (*Pterocarpus*), Parewah, Penthitia, Kammone, Annan (*Fagoea fragrans*), Kumpew, Thingado, and Thitka (or Kathitka), thought to be a species of *Tiliaceae*, and named by Kurz as *Pentace burmanica*). With regard to the first eight woods named he says: "They have long been in use in Burma and in the Madras Presidency, and are fit and suitable in use in works of construction, but up to the present time they are scarcely known in this country." Some of the above-named timbers which Laslett mentions I am unable to trace.)

Over forty years have elapsed since then, and that still the same statement might be made argues a lack of energy and enterprise in some part of the economic administration of the Government and an absence of that commercial activity which has been so apparent in other countries. A truly satisfactory Government system should co-ordinate scientific forestry and commercial practice. As a result of the present state of affairs, the trade in many of these timbers which could be supplied by India is diverted to foreign countries. With the termination of hostilities and the early prospect of improved shipping facilities, the fullness of time for such expansion of trade is at hand.

The main conclusions arrived at are: (1) It is requisite that a scientific and commercial policy of inquiry and development should be instituted without further delay. We have already seen since the war the advantages Germany has gained by being before us in the field in matters of this character. (2) A recognition of the necessity for enlightened and energetic Imperial Government assistance in fostering trade and industry. (3) Experiment on an extensive scale in transport and exploitation of the timber resources of India, Burma, etc.

Mr. William Pointer, of 27, Portland Crescent, Chorlton-on-Medlock, Manchester, stained-glass manufacturer, has left £16,169.

Building Intelligence.

EDINBURGH.—The University of Edinburgh will enter on possession of their new site near Blackford Hill at Martmas, and will proceed at once with the erection there of the first part of a new chemical laboratory, the plans for which have been prepared by the architect, Mr. Balfour Paul, 16, Rutland Square, Edinburgh. To mark this important event in the history of the University, it has been resolved to hold a public ceremony, when the foundation-stone of the buildings is laid. The estimated cost of the part on now to be commenced is £60,000, and the total would be about £250,000.

PROFESSIONAL & TRADE SOCIETIES.

ARCHITECTURAL CRAFTSMEN'S SOCIETY, GLASGOW.—At the second meeting of the present session of the Architectural Craftsmen's Society, held in the Societies' Room in the Royal Technical College, Glasgow, on Friday evening, October 24, Mr. James Muir, president, in the chair, Professor Charles Gourlay delivered an illustrated lecture, entitled "Notes on Renaissance Architecture in England." Professor Gourlay referred to the causes which led to the rebirth of classic learning in Italy, early in the fifteenth century, and told how the Italian architects of the period evolved the Renaissance style of architecture by the study of classic Roman remains. The new style spread to France and all over the Continent, finally reaching England in the sixteenth century. Then, beginning with examples of late English Gothic to show the suitability of this style for the requirements of the time, he illustrated buildings erected by Jones and Wren and their successors. In conclusion, he said that while maintaining our hold on tradition and continuing to derive inspiration therefrom, we should express modern life in all our work. In this way we may be able to add a genuine link to history and to do our part in carrying on the true spirit of the art of architecture.

EDINBURGH ARCHITECTURAL ASSOCIATION.—On the 23rd inst the inaugural lecture for this session was given by Mr. Paul Waterhouse, M.A., F.S.A., London, Mr. T. P. Marwick, president, in the chair, the title of the lecture being "The Torchbearers." The lecturer explained that his discourse was mainly prompted by the thoughtless utterances of certain people, architects and laymen, who saw in the reconstruction of the country the possibility of, and opportunity for, a "new thing" in the world of design. Was it, he asked, likely or desirable that the new demands of a newer civilisation should be met by innovation of the kind which involved the casting aside of old-world traditions? His own answer was an emphatic negative, and he enforced his opinion on grounds both historical and artistic. He pointed out that the centuries during which English thought had been most emancipated—namely, the periods which saw the overthrow of the monasteries, the weakening of adherence to the ancient Church, and the distrust of monarchy—were accompanied in the architectural sphere not by a breakdown of traditional architecture, but by an ever-developing search into the past for the extreme purity of classical methods. The English Renaissance, opening with an apparent display of licence, was, in reality, not an outbreak of individualism or of wild invention, but rather the crude beginnings, growing ever less crude, of a gradual subjection to ancient culture. Mr. Waterhouse further dwelt on two points, one the almost miraculous hold which dogmatic architecture has upon mankind, a hold so insistent that the youngest of the world's great countries, the United States of America, were among the foremost in cheerful subjection to academic purity of design. His other point was that, apart from the magic march of triumphant classicism, there was inherent in all architecture a certain quality which encouraged the maintenance of bygone form. He called this quality the

element of "recognition." It could be proved, he said, almost incontestably that architecture was never passed as good by true connoisseurs unless it was clearly relatable to previous performances in architecture. This was by no means a suggestion that there was no such thing as originality in good architecture, but the fact was, however paradoxical it might seem, that the highest invention could go hand in hand with the most faithful bondage. In fact, it was only the artist trained in years of happy submission to the ways of our ancient forefathers (whether classic or Gothic) who was deserving of or capable of, successful flights in the free sky of progress. On the motion of Professor G. Baldwin Brown, an enthusiastic vote of thanks was awarded to Mr. Waterhouse.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.—The opening meeting of the session 1919-1920—the first since the signing of Peace—will take place on Tuesday, November 4, 1919, at 8.30 p.m., in the galleries of the Royal Institute. The new president, Mr. John W. Simpson, will deliver his inaugural address, on the subject of "The Architect and His Work." A vote of thanks for the address will be moved by the American Ambassador and seconded by Sir Aston Webb, president of the Royal Academy.

THE SOCIETY OF ARCHITECTS.—At a meeting of the Society of Architects, held at 28, Bedford Square, on October 16, the results of the ballot for the election of officers and council were declared as follows:—

President:—Edwin J. Sadgrove, F.R.I.B.A. (re-elected). Senior Vice-President:—Sir Charles T. Rothery, O.B.E., F.R.I.B.A. Junior Vice-President:—A. Burnett Brown, F.S.I. Hon. Secretary:—Noel D. Sheffield, F.S.I. (re-elected). Hon. Treasurer:—George H. Paine (re-elected). Hon. Librarian:—Professor Henry Adams, M.I.C.E., F.S.I., etc. (re-elected). New Members of Council:—Major T. Stewart Inglis, D.S.O. (London), H. C. H. Monson (London), Edward J. Partridge, F.S.I. (London), G. H. Weynon (London), P. B. Boulton (Chesterfield), C. P. Skipper (Cambridge).

SOUTH WALES INSTITUTE OF ARCHITECTS.—A meeting of architectural assistants, pupils, and students in Cardiff and district was held at the Institute Rooms, No. 6, High Street, Cardiff, on the 23rd inst. (Mr. Ivor Jones, president of the South Wales Institute of Architects, in the chair), when the question of the formation of a junior organisation for Cardiff and district was discussed by the members present. A further meeting has been called for to-day, October 31, at 7 p.m.

Cement workers over eighteen throughout the country have obtained an advance of 5s. per week. Proportionate allowances are to be made to those under eighteen, and the advances will be consolidated into wages. The scheme takes effect on November 1.

A war memorial tablet in bronze, ornamented with the Cross and Crown, and fixed on the front centre panel of the pulpit of the Trinity Presbyterian Church, Rochdale, was unveiled last week. It was designed by Mr. W. H. Duncan.

A large Portland cement factory has been erected at Sierras Bayas, 328 kiloms. south of Buenos Aires. The factory, which has been erected on the site of an old one, contains all the latest mechanical devices, one innovation being the utilisation of furnace gases for the production of electric power. Up to the present time, the price of Portland Cement in Buenos Aires has been 18.20 dols. Cement produced by the new factory is priced at about 12 dols.

There is consternation at Redditch following the announcement by the Urban District Council to the effect that some of the proposed 200 municipal houses can only be let at 25s. per week. Prior to 1903 local builders and others used to erect about sixty houses a year. In 1906 and 1907, the number erected, suitable for working people, was nearly eighty in each of those years, but the introduction of the "People's Budget" brought about a big decline, and in that year only nine houses of any description were put up in the Council's area. The next year the number was about forty, but only ten were such as could be let at 7s. and under per week. Very little was done from then until 1914, and since that time building has, of course, been out of the question. To meet normal requirements something like 600 houses are wanted.

Our Office Table.

Messrs. B. T. Batsford, Ltd., have issued two new editions of two works that may well claim to be classics. One is the ninth edition of "Building Construction," by Charles T. Mitchell and George A. Mitchell, A.R.I.B.A., about which all that we need say is that it has been thoroughly revised to date, and that its big sales of past editions have sufficiently proved its value. The price is 10s. 6d. net. The other is Mr. J. T. Rea's "How to Estimate," which we first introduced to the world in our own pages nearly twenty years ago, and the present fourth edition of which, with all possible corrections to date will be welcomed. It is, of course, unfortunate that the present chaotic state of prices utterly precludes accurate quotation, week by week, by anybody; but as our own readers know, Major Rea's object was not to compile a new current price list, but to make comprehensible the principle on which Estimating is based; and that he successfully achieved his task, the favourable reception accorded to his book has amply demonstrated.

Lord Leverhulme is said to be trying to solve the building problem in the Island of Lewis, of which he is the proprietor. He told a recent meeting of the islanders at Stornoway that he was putting up a specimen cottage which he thought would meet their needs. It contained a living room, three bedrooms, scullery, pantry and bathroom. The roof would be boarded, felted, and covered with corrugated iron sheeting, painted a warm red. The walls would be of peat. The cost of the material, he hoped, would not be more than £250, and the building would be done by the men themselves. He would lend tenants 80 per cent. of the cost, to be paid by instalments. There would be a quarter-acre allotment to each cottage at a rent of 1s. a year. The first house is almost completed, and is said to be generally approved by the islanders.

The first meeting of the Slum Areas Committee—a sub-committee of the Housing Advisory Council appointed by Dr. Addison, the Minister of Health—was held at the offices of the Ministry on October 23, with Mr. Neville Chamberlain in the chair. The terms of reference are: "To consider and advise on the principles to be followed in dealing with slum areas, including the circumstances in which schemes of reconstruction, as distinct from clearance, may be adopted, and, as regards cleared areas, the extent to which rehousing on the site should be required, the kind of housing which should be permitted, and the use of the site for factory or other purposes than housing." The procedure to be adopted by the committee was settled. They will examine representative witnesses with experience of actual slum clearance and reconstruction work and those possessing special knowledge of the problems involved. It was also decided to visit in due course typical slum areas.

"Distinctive Lettering and Designs," by A. J. Hewett, No. 2 (London: Trade Papers Publishing Co., Limited, 1s. 3d.), is a very useful continuation of a suggestive help. It gives greater space to the display and spacing of lettering, and will meet present-day requirements of present-day designers. Some of our advertisers and advertising managers will find it very handy.

A question which has been exercising the minds of owners and managers of coffee plantations is the improvement of patio floors, and a few observations on this subject may prove helpful. The following are the essential qualities of a coffee drying ground. The floor must be impervious to the dampness which rises from the earth. The surface must be smooth, so as not to abrade the coffee beans, and finally it must be hard, to withstand the wear resulting from the continual raking about of the beans whilst drying. A great advantage is to have the floor coloured black, as this greatly hastens the drying of the beans by absorption and subsequent radiation of solar heat. A type of floor which has found much favour consists of tiles laid upon

a concrete bed, but even better and more economical is an impervious floor of Portland cement which is coloured black by the admixture of chemicals. This innovation was first suggested by Messrs. Kerner-Greenwood and Co., Ltd., King's Lynn, England. The floors are made impervious to dampness by the addition of a small percentage of their powder, 'Padlo,' which makes cement waterproof. The colouring of Portland cement removes one of the greatest objections to the architectural (as distinct from engineering) use of this material, for it provides a decorative treatment which is peculiarly suited to warm climates. Messrs. Kerner-Greenwood and Co., Ltd., have compiled a leaflet in which full proportions and directions for the colouring of cement are given, and they will, on request, be pleased to send a copy, free, to any reader of this journal.

An objection raised to a gang of builders working at night near the War Office was mentioned at a mass meeting of the National Federation of Building Trade Operatives at Battersea Town Hall last Sunday night. Mr. J. Marrey, the secretary, was asked why a permit to work overtime was granted to a firm at Westminster. In reply, he said that a villa was urgently required for a lady who was to be discharged from a nursing home. Gangs of men were working night and day, but Mr. Winston Churchill objected to the night gangs, so the London district council of the Federation agreed to grant a permit to the firm to work overtime. (Cries of "Shame.")

It was originally intended to erect in each of the British cemeteries on the various battle fronts a replica of the monolith designed by Sir Edwin Lutyens for the Whitehall cenotaph. This memorial, with its simple inscription: "Their name liveth for evermore," was deemed likely to resist the ravages of time and incapable of giving offence to any nation or creed. But the alternative, the cross of Sir Reginald Blomfield's design, now erected in the quadrangle of the Royal Academy, has appealed to many, and the Imperial War Graves' Commission has therefore arranged that both forms shall be used, wherever that course is practicable.

At a protest meeting of members of the Property Owners' Protection Association, held at Winchester House, Old Broad Street, on Tuesday, Mr. Edwin Evans, the president of the Association, after an allusion to the chance municipal electors would have on Saturday, said we were being ruined by officialdom. The armistice was nearly 12 months old, yet even now we were spending one and three-quarter millions of money per day more than we were earning. The Government itself was responsible for the whole of the present shortage of houses to-day. If the Government had given private enterprise a little encouragement and assistance when the war broke out there would not have been a man, woman or child without a house to-day. He proposed a resolution to the effect that the property owners and ratepayers of London viewed with alarm the pressing and rapidly increasing burden of rates and taxes, pledged itself strongly to oppose the present wasteful and extravagant expenditure of public money, and urged the Government and all spending authorities to call a halt until the country's true financial position had been ascertained and fully disclosed to the public. Mr. Hewitt, K.C., seconded the resolution, which was carried unanimously.

At the annual meeting of the Manchester, Salford, and Counties Property Owners' Association held on Tuesday at the Houldsworth Hall, Manchester, a resolution was passed expressing the opinion that, except as the war prevented or affected the building of houses, the present shortage dates from 1909. "The scarcity," the resolution said, "is due mainly to the withdrawal of capital from house-building, consequent upon such provisions of the Finance Act, 1909-10, as affect the valuation of, and the duties laid upon, house property—known as Form IV.; and the Increase of Rent and Mortgage Interest (War Restrictions) Acts, 1915-1919." The resolution expressed the view that houses to meet the needs of the people could be secured best by removing from the Statute-book all unequal restrictive legislation affecting dwelling-

houses, by making such legislative amendments as would be likely to restore public confidence in house-building as a safe investment and by giving free course to the operation of the law of supply and demand. "The necessary protection of the rights and interests of tenants may be fully secured," the resolution ended, "by the exercise of the powers possessed by all local health, sanitary, and building authorities."

A second edition of a "Popular Handbook for Cement and Concrete Users," by Myron H. Lewis, C.E., and Albert H. Chandler, C.E., is issued in this country by Messrs. Hodder and Stoughton, Warwick Square, E.C.4, at 15s. net. The work is an American one, and embodies features unfamiliar to most readers this side, some of which are well worth attention. It is fully illustrated, and covers 430 pages.

At a conference at the Ministry of Health, states an official announcement, with a committee representing builders in different parts of the country, a scheme was considered under which builders holding partially developed land can erect houses on it for sale to the authorities. A provisional agreement was arrived at, and will be considered by a full meeting of builders on November 4.

The Lochaber District Committee, after discussing the housing question last Tuesday, agreed to inform the Scottish Board of Health that they did not feel justified in proceeding with their housing scheme until the crofters were put in the same position with reference to houses as other members of the working classes. In a motion to this effect, Lochiel, who presided, informed the Committee that the conditions offered to crofters were scandalous. While newcomers to the district could now obtain an up-to-date house, practically at the expense of the tax-payer, no provision was made for the improvement of the housing of the crofter, which was the most crying need in the district and throughout the West Highlands generally. He thought it would be unfair to ask the crofter to contribute as a ratepayer towards providing a beautiful house with a bathroom for, say, a railway servant, earning from 55s. a week upwards, while he himself would get nothing, and would have to continue to live in his poorly-thatched hut-an-ben, unless he was in a position to go in for a 4 per cent. loan, which few could afford.

The increases in the wages to the building trade operatives in the north-west of England will swell very considerably the cost of housing schemes, whether promoted privately or by municipalities. The additional cost of Manchester's municipal schemes will be at least £1,600,000, which is equal to an increase in the economic rent of each house of from 1s. to 1s. 6½d. per week. Assuming that the immediate requirements of the country are 500,000 houses, the nation's share in paying for the operatives' advance will be £40,000,000. For the purpose of these calculations the average cost of the municipally-built house is reckoned at £800, and the increase in the cost of labour at 20 per cent.; but if, as seems not unlikely, the average cost is nearer £1,000 and the rise in the cost of labour is over 20 per cent., Manchester's houses will cost £2,000,000 more than was originally estimated. The men begin to receive graduated increases at the end of this month. By May next the skilled men in the north-west district will be getting an increase of 20 per cent. on their present wage, and the labourers will be getting 25 per cent., while the working week will be reduced from 46½ hours to 44 hours. Similar claims are being made by operatives all over the country for similar increases. The big increase in the cost of the housing schemes will not be borne by Manchester. However great the loss which may be incurred by a local authority in providing necessary housing, the call upon the municipality will not be for more than a penny rate. It is the taxpayer who will have to pay the increased wages.

The members of the London and Middlesex Archaeological Society paid a visit to Mercers' Hall last Monday. Mr. Dendy Watney acted as guide.

CHIPS.

The Harrow War Memorial Committee have before them a scheme to erect a memorial hall at a cost of £25,000. A public meeting is to be called to decide the matter.

The Ministry of Health has decided to appoint a Committee to inquire into the affairs of the Metropolitan Water Board, whose deficiency now exceeds a rate of 1d. in the pound.

The Langham Sketching Club gives a private view of pictures and sketches on Friday, November 7, at its rooms, 1, Langham Chambers. The exhibition and conversation promise to be unusually attractive.

At a preliminary meeting of the architects of the city of Cork, held in the board room of the Cork, Blackrock and Passage Railway, it was unanimously decided to form a local society of architects, surveyors, and engineers.

Galashiels Town Council have appointed Mr. Elliot Grieve, Selkirk, as architect under their housing scheme, which provides for the erection of 113 houses on the area in Gala policies adjoining Meikle Street—40 three-roomed, 74 four-roomed, and 4 five-roomed houses.

The one hundred-and-first session of the Institution of Civil Engineers will be opened on Tuesday, November 4, at 5.30 p.m., when Sir John Purser Griffith, president, will deliver an address, and will present awards made by the Council for papers dealt with during the past session.

Mr. S. Phillips Dales, M.S.A., who is now completing his war services as honorary consulting architect to the National Council of Y.M.C.A.s and kindred bodies, will resume full activities connected with his private practice at 63, High Holborn, W.C., and Manor Gardens, Squirrels Heath, Essex.

The housing problem was discussed at some length at Peterborough Town Council last Friday evening, and as a result it was decided to ask the builders of the city to attend a round-table conference, to discuss the best means whereby houses could be erected on sound business lines.

In a case heard before the Profiteering Committee of Wandsworth on Tuesday last, complaint was made of the price charged for three pieces of glass. Mr. F. H. Smith stated that Messrs. Clarke and Clarke, of Queen's Road, Wandsworth, had charged 3s. for three pieces of glass. The committee decided there had been an overcharge of 2s.

A conference was held at the Ministry of Health on Thursday with a committee representing house-builders in different parts of the country. A scheme was considered under which house-builders now holding partially developed land can build houses on it for sale to the local authorities. A provisional agreement was arrived at and will be placed before a full meeting of representatives of the house-builders on Tuesday, November 4.

The executive committee of the National Trust for Places of Historic Interest or Natural Beauty announces that through the generosity of Messrs. C. and J. Clark, Limited, of Street, Somerset, a tract of beautiful woodland, Ivythorne Hill and Wood, overlooking Street, has just been vested in the Trust, and thus preserved for ever for the benefit of the nation. The hill and wood comprise about forty-six acres and command extensive views.

Sir Aston Webb, P.R.A., will open at Leighton House, 12, Holland Park Road, Kensington, this afternoon, at half-past three o'clock, an exhibition of the late Mrs. William de Morgan's pictures, presented by her brother, Mr. Spencer Pickering. The de Morgans were intimate friends of that former President of the Royal Academy, Lord Leighton, and William de Morgan supplied the peacock-blue tiles for the patio and corridor of the house.

A cathedral is to be built at Sheffield. This decision was reached last week by a meeting of Church and civic representatives. Deferment of the scheme on the ground that it would occupy labour which might be employed in building houses was proposed, but was given only four votes. The Earl of Harewood said that care should be taken not to give support to critics who might say that the Church cared more for her glory than for the welfare of her ministers.

The Royal Archaeological Institute of Great Britain and Ireland will hold an ordinary meeting, Wednesday, November 5, 1919, in the apartments of the Society of Antiquaries, Burlington House, Piccadilly, W., at 4.30 p.m. Paper on the "Timber Domestic Architecture of Kent, Surrey, and Sussex," with lantern illustrations, by P. M. Johnston, F.S.A., F.R.I.B.A. On December 5, Mr. Druce will read a paper on "Elephants in Mediaeval Legend and Art."

LIST OF TENDERS OPEN.

COMPETITIONS.

Jan. 17.—For a New Secondary School for Boys for the County Borough of Southport. Author of Successful Design to carry out the building; 2nd premium, 200 guineas; 3rd premium, 100 guineas. Assessor, Maurice E. Webb, Esq., D.S.O., F.R.I.B.A. Conditions, etc., of the Town Clerk, Town Hall, Southport. Designs to J. Ernest Jarratt, town clerk, Town Hall, Southport. [See advt.]

Nov. 8. For up-to-date department stores, to cost £250,000, at Leeds, for Messrs. Marsh, Jones, and Crabb Ltd., Boar Lane, Leeds. Successful competitor will be employed as architect. Second, third, fourth, and fifth to be paid 150 guineas, 100 guineas, 75 guineas, and 50 guineas respectively. From applicants, the assessor, Sir John J. Burnet, M.D., R.S.A., will select a limited number to compete. [See advt., page xii, in issue of October 17.]

BUILDINGS.

Nov. 5.—The Commissioners of His Majesty's Works invite tenders before 11 a.m. on Nov. 5, addressed to the Secretary, H.M. Office of Works, Storey's Gate, Westminster, S.W.1, for the rebuilding of the north-east wing of Chelsea hospital.

Nov. 6. For 23 houses in Alderley Road and Poulton Road, Wallasey, in two sections of 22 houses and 11 houses respectively.—For the Wallasey Urban District Council.

Nov. 6.—For 40 houses on site adjoining Hampton Road, Warwick.—For the Corporation of Warwick.—Crouch, Butler and Savage, F.R.I.B.A., 67a, New Street, Birmingham, architects.

Nov. 6.—For eight houses at Frating Green, Essex.—For the Tending Rural District Council.—Tyler and Atkinson, 37, The Broadway, Ealing, London, W.5, architects. Tenders to A. J. H. Ward, clerk, 42, Church Street, Harwich, Essex.

Nov. 8.—For pavilion to accommodate 15,000 (12,000 seated, 3,000 standing), for the Royal National Eisteddfod of Wales. Pavilion to be constructed of wood, exclusive of seating and flooring.—Sketch plans, with estimate and cost, to D. H. Rees, hon. sec., Pavilion Committee, 269, Gladstone Road, Barry Dock, Glamorgan.

Nov. 8.—For 100 or a lesser number of brick-built houses, in blocks of two.—For the Tredegar Urban District Council.—Tenders to H. J. C. Shepard, clerk, Bedwellty House, Tredegar, Mon.

Nov. 8.—For 12 houses, in pairs, together with sewers, at Abercraze.—For the Ystradgynlais Rural District Council.—J. C. Rees, M.S.A., Parade Chambers, Neath, architect. Tenders to A. J. Jeffreys, clerk to the council, Neath.

Nov. 8.—For four cottages at Carlton Scroop and four at Sudbrook.—For the Grantham Rural District Council.—H. Cecil Rudkin, P.A.S.I., St. Peter's Hill, Grantham. Tenders to A. H. Malin, clerk, Westgate, Grantham.

Nov. 10.—For 115 houses to be built as first part of the housing scheme on the Coopes Estate, Little Lever, Lancs.—For the urban district council.—Tenders to J. Seddon, clerk, Council Offices, Little Lever, near Bolton.

Nov. 10.—For 50 cottages at Dunch Lane, Melksham.—For the Melksham Rural District Council.—E. A. Newth, clerk, Union Street, Trowbridge.

Nov. 11.—For houses in connection with the Guildford Rural District Council's housing scheme.—For the rural district council.—J. H. Norris, 51, High Street, Guildford, architect. Tenders to W. S. V. Cullerne, clerk, Council Offices, Commercial Road, Guildford.

Nov. 14.—For 125 houses at Woodside.—For the Croydon Town Council.—Tenders to J. M. Newham, town clerk, Town Hall, Croydon.

Nov. 15.—For housing scheme.—For the Blaenavon Urban District Council.—Architects, Thomas and Morgan and Partners, architects and civil engineers, 23, Gelliwastad Road, Pontypridd. Tenders to Hlyd G. Gwyn Thomas, clerk, Council Offices, Blaenavon, Mon.

Nov. 15.—For 46 houses at Luton.—For the town council.—Tenders to W. Smith, town clerk, Public Library, Luton.

Nov. 17.—For cottages on the Green Lane site, Cherry Tree, Blackburn.—For the Housing Committee.—Tender to L. Beard, town clerk, Town Hall, Blackburn.

Nov. 17.—For cottages at Pebworth.—For the Pebworth Rural District Council.—R. J. Atkinson, architect and surveyor, Union Offices, Evesham. Tenders to E. H. Wadams, clerk, Union Offices, Evesham.

Nov. 20.—For workmen's dwellings at Horsea, Yorks.—For the Horsea Urban District Council.—Tenders to the Clerk to the Council.

Nov. 29.—For 28 workmen's dwellings at Radcliffe, Lancs.—For the Radcliffe Urban District Council.—Tenders to S. Mills, clerk, Council Offices, Radcliffe.

The Minister of Health has made regulations adapting the regulations governing the procedure normally followed by local authorities for the compulsory purchase of land for housing purposes to meet cases where it is necessary for him to act under Section 16 of the Housing Act of 1919 to secure immediate provision of dwelling accommodation.

TO CORRESPONDENTS.

We do not hold ourselves responsible for the opinions of our correspondents. All communications should be drawn up as briefly as possible, as there are many claimants upon the space allotted to correspondents.

When favouring us with drawings or photographs, architects are asked kindly to state how long the building has been erected. It does neither their nor us much good to illustrate buildings which have been some time executed, except under special circumstances.

It is particularly requested that all drawings and all communications respecting illustrations or literary matter, books for review, etc., should be addressed to the Editor of the BUILDING NEWS, Ellingham House, 1, Arundel Street, Strand, W.C.2, and not to members of the staff by name. Delay is not infrequently otherwise caused. All drawings and other communications are sent at contributors' risks, and the Editor will not undertake to pay for, or be liable for, unsought contributions.

*Drawings of selected competition designs, important public and private buildings, details of old and new work, and good sketches are always welcome, and for such no charge is made for insertion of more commonplace subjects, small churches, chapels, houses, etc.—we have usually far more sent than we can insert, but are glad to do so when space permits, on mutually advantageous terms, which may be ascertained on application.

ADVERTISEMENT CHARGES.

The charge for Competition and Contract Advertisements, Public Companies, and all official advertisements is 1s. per line of Eight Words, the first line counting as two, the minimum charge being 5s. for four lines.

Rates for Trade Advertisements on front page and special and other positions can be obtained on application to the Publisher.

RECEIVED.—S. and M.—J. M. R.—R. and R.—D. Bros., Ltd.—Q. M. S.—P. and Co.—B. R. Co., Ltd.—T. C. S.—A. J. M. and Co.—D. M.—A. H. and Son—Major G.—Assoc. N., Ltd.—M. G. and Co.—H. M.—W. C. Co., Ltd.—B. of M.—F. B. and Co., Ltd.—S. Corp.—L. W. B.—A. D. D. and Sons, Ltd.—C. H. P., Ltd.—A. H. and Son—L. G. Co., Ltd.—W. and W.—G. and Son—L. and N.—J. S. and Co.—W. E. R.—B. of S.—T.—E. J. R. and Co.—I. C. S.—M. and Co.—R. P. Co.—I. Co., Ltd.—S. E. C.—G. W., Ltd.—J. B. and Co.—E. and R., Ltd.—A. W. B.—P. C. B. and Co.—M. B. and Co.—K. F. and R.—R. W. C.—H. J. D.—J. W., Ltd.—C. Ltd.—E. A. Co., Ltd.—C. of N.—F. F.

MONRO.—Thanks; yes.

T. R. S.—Sorry; too long.

J. H. G.—Safe, but rather primitive!

BARTLENY.—Yes.

J. B. T.—Thanks; too full up.

R. MORRIS.—Sorry; but we have no time to search past patents.

T. MILNER.—We know no other. 2. Much the same, we expect, as made this side by similar firms.

The Cardiff City Council have accepted the tender of Messrs. Knox and Wells, Cardiff, at £8,627, for the construction of a public convenience for both sexes.

Owing to the indifference of the inhabitants, Rochford (Essex) authorities have decided not to proceed with the proposed war memorial—a monument in the Market Square.

The American master printers' lock-out has resulted in the temporary suspension of the publication of 152 periodicals in New York, and has stopped the presses in 75 per cent. of the commercial printing firms of that city.

At the annual meeting of the Incorporated Auctioneers' Benevolent Fund held on Tuesday at Frederick's Place, Old Jewry, it was announced that the year's subscriptions amounted to £337, that 20 annuitants had been paid £467, and that 13 applicants for temporary relief had received £160, in addition to grants made in committee that day to the extent of £95.

Edinburgh City Council on Tuesday accepted the tender of Messrs. Brown, Boveri and Co., of Baden (Switzerland), of £106,618 for turbo alternators for their new electric power station. It was stated that the three lowest British firms had found it impossible to make any reduction in their tenders. The tender of the foreign firm was practically £70,000 cheaper than the lowest British tender.

Experiments conducted at the University Laboratory, Cork, have led to the following conclusions:—(1) Any cement beyond that necessary to fill the voids in aggregates is unnecessary; (2) just as a carpenter uses the minimum of glue in making a joint, so one should use a minimum of cement in making concrete; (3) large aggregates should have large sand, while smaller aggregates should have small sand.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

Effingham House.

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OUR ILLUSTRATIONS.

"Lower Scene," Hythe, Kent. Entrance front and plan. Mr. Oswald P. Milne, F.R.I.B.A., Architect.
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Strand, W.C.2

New House at Pampisford for Lieut.-Col. P. Hodson. Mr. H. Austen Hall, F.R.I.B.A., Architect.
Loving Cup for the City of Winchester, and Christening Cup for Lady Margaret Crichton-Stuart. Designed by the late H. W. Lonsdale.
Study of Drapery: Figure for Stained Glass. Designed and drawn by the late H. W. Lonsdale.
Nottingham General Hospital: Proposed Extensions (War Memorial Buildings). Bird's-eye and key plan. Messrs. Evans and Son, Architects.

Currente Calamo.

Judging from his speeches, Dr. Addison seems still unacquainted with the difficulties which are delaying housing schemes, or resolved to minimise them. At Birmingham, on Monday, some of these were discussed at a meeting called to consider some of them. The chair was taken by Mr. H. E. Farmer (Housing Commissioner for Staffordshire, Herefordshire, Warwickshire, Worcestershire, and Shropshire), who dealt particularly with the acute shortage of cement and bricks. The mouliders' strike, he said, was not causing any immediate shortage, but might do so if it continued much longer. The position with regard to labour was not so acute, but the outlook was black for the time when the big building schemes would be started. The question of transport was a serious one, as there was a shortage of trucks everywhere. Mr. Greatorex (West Bromwich) asked particularly that the question of cement supplies might be looked into, having regard to the fact that certain local authorities in the region proposed building concrete houses. He inquired if it would not be possible for cement for housing purposes to be supplied from some of the places in the district. Captain Gray (the Director of Building Supplies) hoped to be able to arrange that. The question of giving priority to housing schemes was discussed, and it was decided to call the attention of Dr. Addison to the large number of cinemas, billiard halls, and so forth which were being built or projected in the area, and to urge him to adopt some system of priority for housing. In regard to bricks, the committee was informed that one reason for the shortage was that brickmakers in the area were not willing to part with their bricks for housing schemes at the price fixed by the Director of Building Material Supplies, because they could obtain higher prices for bricks for private purposes. Several places were mentioned where supplies of bricks were stacked, and the manufacturers complained they had no orders, but it was suggested the reason was that the yards were out of the way, so that difficulties of transport presented themselves. — Mr. Greatorex pointed out that a big housing scheme was being undertaken in West Bromwich, and, although it was a brick-making area, they were not likely to obtain bricks locally, as most of the brickyards

had closed down. This was regrettable, and he wished they could be reopened.

We notice that it is being stated that delays are due to architects. We have investigated one or two cases, and found the allegation entirely untrue. In an address given at Clifton Road Council School last week, Mr. Seward James made reference to the Pineapple Farm competition, which he instanced as a case in which the employment of architects proved a hindrance rather than a help. This statement is not in accordance with the facts, and its secretary is instructed by the Council of the Birmingham Architectural Association to publish the details of the real position, so that Mr. James may have an opportunity of publicly refuting their accuracy. Early in the year the Housing Committee advertised a competition for a scheme of lay-out and the erection of houses at Pineapple Farm, the conditions of which were of such a character that no architect of any standing could possibly compete. Representations were made to the Housing Committee to this effect, for some time without result, but ultimately, through the good offices of the Lord Mayor, the objections were removed and the Councils of the Royal Institute of British Architects and of the Birmingham Architectural Association permitted their members to compete. Plans were delivered at the Council House at Easter, but it was not until September, upon Mr. James's own admission, that he saw the winning architects to arrange a scale of fees. The whole of the essential particulars required by the architects to enable them to complete their plans were not received by them until the middle of October. In view of the dates quoted above, it is a little difficult to understand how Mr. James can lay the blame for delay upon the architects. We hope the architectural societies in the provinces will watch for other misleading statements of this kind and similarly state facts.

Where a tenant of premises gives notice to quit, and his landlord, acting on this, sells the place to a purchaser who wants to live there, what ground has the tenant for refusing to leave? This was the question asked in the recent case of "Flannagan v. Shaw." It all arose out of an action brought by the landlord to recover double

rent from the tenant, who still held on after his own notice to quit had expired. This claim was based upon an old Act of George II., passed in 1737—182 years ago and still running—which clearly gave a landlord the right to recover double rent where a tenant would not quit upon his own notice. The only defence was the Increase of Rent Act, 1915, which the County Court judge held did not apply to this claim for double rent as a penalty. The tenant then appealed to the High Court, where Horridge, J., somehow made the penalty into an increase of rent, and so ingeniously got in the Act of 1915. Thereupon Bailhache, J., sitting with him, and being of the opposite opinion, let it go at that, and so the County Court judgment was reversed. As we wrote in a note at the time, in our issue of May 7, 1919: "We may yet hear what the Court of Appeal, as lawyers, think of this politic ruling." We have heard now, and find that three Lords Justices have decided that the penalty given by the old Act of 1737 cannot be called rent within the new Act of 1915. Nor could it be said that a landlord who used the Act against a tenant who would not quit on his own notice was seeking to increase his rent. So the appeal was allowed, with costs; the County Court judgment is restored, and someone will have to pay for this flutter in the Law Courts, when policy was set against Law and Logic.

We are glad to learn that the British Archaeological School in Rome is looking forward to a prosperous and active career. Dr. Ashby, the Director, is again in residence, after giving over sixty lectures on Roman History to our soldiers in Northern Italy. He has visited the excavations made by Italian archaeologists, with the co-operation of Mr. Whitaker, of Palermo, on the island of Motye, six miles north of Marsala, one of the three Phœnician settlements which, according to Thucydides, existed in Sicily, but which was destroyed by the elder Dionysius in 397 B.C. Besides the Director, who has been at the School for most of the summer, it has also had four students—Mr. and Mrs. H. C. Bradshaw, Private Davies, of the Australian Imperial Force, and Mr. J. D. Beazley. Mr. Bradshaw, who has been appointed to University College, London, was the first scholar nominated by the Faculty of Architecture, and returned, after having been demobilised last April, to

complete his last year at the School, where he finished a series of drawings of the Temple of Fortune at Palestrina, and made a plan of Central Rome as it existed in the Fourth Century after Christ. Mrs. Bradshaw, meanwhile, studied the stucco decorations of the two well-known tombs at the second mile of the Latin Way, and revised the description of some of the terracottas in the Museo dei Conservatori for the catalogue in preparation by the school. Mr. W. Walcott also returned for two months, and executed several water-colours and etchings.

The National Housing and Town Planning Council have issued a memorandum and resolutions, covering twenty-six closely type-written foolscap pages, submitted to the Minister of Health on October 30. Among the subjects dealt with are the adoption of alternative contract systems; delays and difficulties in the supply of building materials; the standards of housing schemes; the financial regulations and administrative procedure after 1927; and the reduction of technical and documentary requirements. The memorandum is divided into the following sections:—(1) The causes of delay in entering upon the actual work of cottage construction and the methods by which more rapid progress can be secured. (2) The possibility that in the later stages of the execution of housing schemes serious delays may arise as a result of a shortage of the supply of building materials and labour available for the purpose of cottage building. (3) The raising of money required for housing schemes. Two of the many matters which are considered are the development of a State Building Department and the setting up of building plants by local authorities. The memorandum declares in this connection that the tenders at present being sent in are not competitive. On the question of raising the money required for the housing schemes the suggestion is put forward that model houses might be taken round the country, and that towns should have a Housing Week.

The Rev. James Boyle, vicar of Wembledon, near Bridgewater, at Bath and Wells Diocesan Conference strongly opposed an appeal for funds for Wells Cathedral. His contention was that the insufficiency of clerical incomes was a more pressing matter. Giving instances of poor benefices, he said that he himself, having to defray out of his stipend the cost of keeping up a mansion, had had to turn his home into a lodging-house. Seen by a *Daily Chronicle* correspondent last Friday, Mr. Boyle said that he and his wife slept in the harness-room and their children in the hayloft. "This is in order," he said, "to keep up a mansion which the present bishop recommended to be purchased for the parish, the price of which I am still paying, and which the bishop makes it as difficult as possible to get rid of. I am a pluralist. I am vicar of Wembledon with sufficient stipend. I don't want any more. I am custodian of Wembledon vicarage, with no stipend attached. Ninety per cent. of my energies

is wasted in finding means for the upkeep of the mansion, energies deliberately taken away from spiritual work and applied to secular through the bad administration of bishops." Mr. Boyle, referring to the appeal on behalf of the cathedral, said that as a religious factor in the diocese the cathedral did not count. The interest was antiquarian, and the majority of Somersetshire people had never seen the building. Of those who had seen it, many had been bribed to do so by Mothers' Union treats. "There is," he added, "far more interest in the wooden man who kicks the bell of the clock in the cathedral than in the cross above the screen."

We have read with satisfaction a "Hygiene of Town Planning and Vegetation," by Dr. P. S. G. Dubash (London: G. Bell and Sons, Ltd., 3s.). It deals primarily with town-planning as it affects the health and well-being of the workers, and a special feature is made of vegetation in relation thereto. Its influence on climate and atmosphere and on health in general is emphasised, and the value of trees and their medicinal virtues are amply demonstrated. Many of the trees favoured by Dr. Dubash would not, of course, grow in the open here, but in other parts of the Empire they might be useful, and in the Tropics render the matter of selection less difficult. In climates like our own it is necessary that trees should not interrupt light or interfere with the warmth and ventilation of the houses. These and other precautions are indicated, together with others of only secondary importance.

"ARTIST, TRUSTEE, AND JUDGE."

The inspiring address delivered by Mr. J. W. Simpson, the new President of the Royal Institute of British Architects, should evoke responsive efforts of all classes and callings alike to the imminent necessity of mutual and well-considered endeavour "to mend the neglected structure of their prosperity, to renew the arrested progress of their social welfare." But, as Mr. Simpson so well put it, assuredly no other calling than that we pursue is endowed with the faculties enabling the discharge of the functions imperatively necessary for the solution of the problem with which the Nation and the Empire have to grapple; and which, to put it mildly, are not pre-eminently visible neither among the qualifications of our statesmen or legislators, nor among those of the administrators who, in kaleidoscopic rapidity of succession are called upon to second the attempts of the originators of ill-digested schemes of social regeneration.

That, possibly, is due in the first place to the lack of imagination which is fatal alike to the deviser of any schemes of betterment and which ignores the artistic capacity in favour of "the practical man," on the one hand, and which, on the other, is led away from time to time by the mere dilettante, whose empty phrases, all unreinforced by reflection and caution, lead him and his patrons or followers into the morass of failure. In architecture this, at any rate, is true, as Mr. Simpson so admirably phrased it, that the real artist among architects is the man who does not merely talk platitudes about "Art," but who is delighted in his work for its own sake, and yet discontented with it because of his perpetual endeavour to reach perfection, never grudging any

labour to extend his knowledge or improve his capacity.

And even when genius and labour have equipped the architect with a perfect panoply of attainments, it is useless to ignore the fact that business ability must be added to his other indispensable qualifications. His brethren of the other Arts may or may not possess that. There are those who would deny it to them, but, as Mr. Simpson reminded all who heard him, the architect works under conditions quite different from those of the painter or the sculptor. They produce their work, bargain for its purchase, and there is an end of the matter; but the architect, as soon as the contract is signed, wields the powers of an almost absolute trustee, and till his work is done, and money has been freely spent thereon by his direction, and at his discretion, limited only by the desires of his client, no one can say if he has spent wisely or honestly, or whether he has protected his client on the one hand or the builder on the other. Moreover, in regard to both he may be called upon to exercise the functions of a judge. Disputes may arise which his verdict alone can settle, and it is common knowledge that his behaviour in the last-named capacity has won for the whole profession unlimited trust and confidence, as justifiably bestowed, as is really remarkable considering the variety of opposing interests he has from time to time to deal with. One might count on the fingers of one hand the instances during the past fifty years when that trust and confidence have been abused. Can as much be said even of the profession whose occupation it is to further the administration of justice. When has an architect been "struck off the rolls"? Is there any other calling in which, outside the range of its own practice, its pursuers have to master subjects, some knowledge of which is as indispensable as its attainment is laborious?

Of the actual work of the architect, Mr. Simpson spoke in terms as terse as they were true, and quite pardonably complained that, while the aesthetics of architecture perennially interested cultured minds, it was too seldom realised that the true greatness of the art is due to the severely practical nature of its medium and the necessity of expressing the artist's ideal in terms of cubic reality. It is too often the case, as he put it, that the enthusiast who calls it "frozen music" forgets the freezing is the very essence of the music, and that no mere dexterous sketches, but patiently prepared diagrams, and myriads of notes and figures, must show how bricks are laid in unseen foundations, and how joists of cunning fashion couple the roof-beams.

That there is a spiritual side of our work has been duly recognised by some of our deepest thinkers. Undoubtedly men and women of every nation do receive powerful and permanent tone from the impressions communicated to them by architecture, and not merely from great monuments. Who shall deny that the beauty of the old English mansion and cottage did much to instil the English love of home, which to-day seems weakening in response to the attractions of such consolations as are offered the masses for the dearth of houses, and the poorly designed and badly built structures which housed the great majority of our people during the Victorian age, and since down the opening years of this century? It has not been so clear to us as it is to Mr. Simpson that in the National Housing Scheme the Government has "insisted on standards of sound design and construction." The published plans and designs recommended from time to time to those concerned by the different Departments have not conveyed to us that impression; but that

where competent architects are employed, and the builder is not to be shut out in favour of direct and diluted labour, it is possible that another generation may experience ethical results more really beneficial to character than cathedrals on the one hand or kinema palaces on the other.

Anyhow, architecture, if it is to profit us as a nation, must become once again a part of its daily life, and the one effectual discouragement of waste. The worst waste of all has been the absence of true economy which Mr. Simpson so righteously denounced in his concluding sentences. Waste of time and energy wandering about the passages of tube stations, with their lifts planned remote from the trains, and fatuous stairs intervening between the lifts and the platforms. Waste of property in the squalid hinder parts of main-line stations, linked by bridges which darken and desolate streets of houses, waste which defiles and depresses the whole community. Marshal Foch, whom he quoted, has said the development of the art of war is like that of the art of architecture; that materials may change, but that the static principles on which houses must be built are permanent. That is true; but it has been as little recognised by some of us as the art of war seems to have been by some who gave place to Marshal Foch. May Mr. Simpson, whose real capacity for true leadership has been long recognised by all of us, have during his Presidency the satisfaction of knowing that the good seed he sowed last Wednesday is bearing fruit a hundredfold. His wise and well-timed distribution thereof well deserves it, and is in refreshing contrast with the Presidential addresses of some of his predecessors.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

FIRST MEETING OF SESSION.

A brilliant and crowded assembly inaugurated the first session that the Royal Institute of British Architects has held since the war. Mr. John W. Davis, the American Ambassador, and Sir Aston Webb, P.R.A., were among those present, and moved and seconded the vote of thanks to the President, Mr. John W. Simpson. Dr. Addison, however, who had been expected, was unable to attend.

The proceedings were opened by reading the minutes of the last meeting, after which the Hon. Secretary, Mr. Ian MacAlister, read the following message from the King, conveying thanks to the Council and Members of the Institute for the address of loyalty they had sent him:—

"I am commanded to thank you, the Council and Members of the Royal Institute of British Architects, for the message of loyalty you have addressed to the King, your patron, on the occasion of the inaugural meeting of your first session since the termination of the war. I am to assure you of his Majesty's abiding interest in the activities of the Institute in all its various branches. The King feels confident that the members of the architectural profession will do full justice to the greatest possibilities which rest upon them in the nation's work of reconstruction."

The President then delivered his address.

THE PRESIDENT'S ADDRESS.

Your Excellency, my lords, ladies, and gentlemen.—In all the world's history there has been never an epoch like that to which we are come. Four years of energy and skill have been devoted by the nations to the work of mutual destruction; and now they see, revealed in the light of Peace, the precipice of ruin to which their struggles have brought them. Aghast at the imminent danger, they turn—still faint and bruised with fighting—to mend the neglected structure of their prosperity, to renew the arrested progress of their social welfare.

In these tremendous circumstances I invite your attention to the functions

of the Architect Plan—born of the fertile union of Reflection, analysing the conditions of the problem with Imagination, quick to perceive its true solution; Construction, daughter of Caution, testing the soundness of each audacious artifice. Such faculties, at once quickened and chastened by severe technical training, conduce—as I shall submit—to a type of intellect in the Designer of Buildings which is a national asset; an instrument to be employed to its very limit at this present time.

WHAT IS AN ARCHITECT?

There can be no better definition than that given by the dictionary of the Académie Française: "The artist who composes buildings, determines their proportions, distributions, and decorations, directs their execution, and controls their cost."

First, then, foremost, and above all, he is an artist. And by the term artist I understand no more a draughtsman than I do an actor or a hairdresser, but that which all who honestly practise those professions would wish to be; delighting in their work for its own sake, yet discontented with it because of perpetual endeavour to reach a higher perfection. Not that fitful dilettante who justifies to himself his idle hours with empty phrases—a "lack of inspiration," or the like—but a man with a life's work before him, and the time desperately inadequate in which to do it. A man of remorseless severity in the standard of his own attainment, inasmuch that he shall grudge no expenditure of time and pains to achieve the smallest improvement in his work. One in whose mouth the words, "It will do," and "Near enough," are not found; nor will he tolerate them in the mouths of those who work with him.

With such a temperament, imagination, an eye trained to the appreciation of form and colour, and the rare creative faculty, endowed with all attributes of the artist—he is yet but an imperfect architect. For to the artist must be added the technician, to make the architect. Of what avail is his gift of creation, if he have not constructive science that alone shall enable the offspring of his vision to reach maturity?

And what a very mountain range of obstacles now appears between our eager artist and the promised land of his desire. Not seldom, indeed, his heart fails at the steep ascent and either he turns aside into by-paths which he conceives easier or more direct or, he becomes fascinated with the very ruggedness of his toil, and remains contentedly constructing, with never a regret for what lies beyond his vision.

The artist, then, must train his unaccustomed feet to tread firmly the slippery planes of geometry; for he is to be able, you must remember, to delineate Things, not merely as they exist, but as they are to be. Geometer and calculator, mathematician, he must still surmount and master the rocky intricacies of the trades.

Mason and bricklayer shall he become, and carpenter to boot. The workers in metal must yield to him the secrets of their crafts, nor shall he rest till he has explored the whole mystery of material—rocks, and trees, and the sand which is by the seashore.

Something of an engineer he will find himself nowadays, being called upon to deal with steel as a familiar friend; recognising its great possibilities, and—its limitations. He is but a poor designer who shall set aside materials as "inartistic"; rather should he recognise it as his duty, by masterful handling, to subdue them with beauty.

The study of hygiene is within his province, for he must be nicely studious in arranging all sanitary matters, and that not merely as to their general disposal. Judging no detail of pipe, trap, joint, or fitting unworthy of attention, he must narrowly supervise each with the authority which is born of knowledge. Upon climate, aspect, rainfall, soils, and all matters pertaining to the public health, he will be required to advise; and to plan arieth the defences against those insidious, persistent foes of humanity, sickness and disease.

Armed, then, with this panoply of attainments, and the vigorous constitution proper

for their exercise, yet another gift is needed for his full equipment.

The very weight of his intellectual armour may be his disadvantage and undoing, if it be not supported by that solid sense of proportion—those powers of inductive and deductive reasoning—which go to make what is commonly called "business ability."

And here we come upon our architect in an aspect quite different from any in which we have hitherto viewed him. An aspect, too, which perhaps most of all differentiates him from his brethren who take the arts for their trade.

For, consider his position who is entrusted with an important work of architecture, and how his conditions vary from those of the painter or the sculptor. These last produce their work, agree terms of its purchase, and there's an end to the transaction! A mere matter of interchange so far as finance is concerned.

But the architect, from the moment the building contract is signed, is invested with the discretion of an almost unfettered trustee. Vast sums of money are at his disposition, and are disbursed by his direction. None can tell, till such time as the work is completed and the cost reckoned, whether or no he has wisely and honestly acquitted himself of his stewardship, and obtained full value for the moneys entrusted to him.

ARTIST, TRUSTEE, AND JUDGE.

A trustee, did I say? Nay, more; a very judge. As the employer lays down his gold, so the builder bestows freely his work at the word of the architect, neither doubting but that justice shall be done them. When I think of the unlimited trust and confidence which are placed in us day by day, year by year, by men of opposing interests, strangers moreover for the most part, who know us not at all in private life; when I think, too, that among both small and great, high and low, that trust and that confidence are justified—I profess I am proud of my calling. Mistakes are made, no doubt, "to err is human"; I have known cases of unpardonable oversight—but (I speak of those who rightly bear the title) who ever heard of a dishonest architect?

To prolong the list would weary you. I could speak of the necessary knowledge of accounts; of some familiarity with the law, as it affects the drawing of contracts, the rights of dominant and servient owners of easements, the complexities of Building Acts and such like mysteries; of the need that he should be able to express his views with clarity and terseness, whether in writing or in speech; of the architect as the "polite letter writer," dealing daily with the correspondence of a bishop.

You will say—I fear—that my sketch of the "complete architect" is but a fancy portrait, that so many accomplishments cannot crowd into the few years of a working life. My picture, it may be, is exactly true of none of us, as we are—I freely disclaim its likeness to the author—but it may stand for all of us—as we would be.

Be this of the workman as it may be. What of the work?

It will not have escaped you that, although the quality of artist stands foremost in the making of an architect, I have described in greater detail his faculties of construction and administration. It is with intention that I have chosen for my discourse these less familiar aspects of our art. To cultured minds, the aesthetics of architecture are a perennial interest, and, since buildings make appeal to the sense of beauty, the emotions they inspire must form the measure for their criticism. Yet it is seldom realised how much of the greatness of the art of architecture is due to the severely practical nature of its medium, to the necessity of expressing the artist's ideal in terms of cubic reality. When the enthusiast speaks of it as "frozen music," he is apt to forget that the freezing inspired, and is the very essence of, the music. For architecture is, above all, building; the calculated, right disposition of proportioned solids and voids—in other words, plan and construction; not the cornices, mouldings, and carvings which define the masses, add desired emphasis to light and shadow. To create it, no dexterous

suggestive sketch suffices; no magic wand, nor potent incantation will raise it from the ground. Patient complex diagrams of geometrical projection, sown with myriad notes and figures, must show how bricks are placed in unseen foundations, and how joints of cunning fashion couple the roof beams.

But, for all that I have dwelt upon the material, I would not be thought unmindful of the spiritual aspect of our calling. "Morality, in fact, is architectonic; and goodness, for human nature, is the queen over truth and beauty." I quote from Addington Symonds. "Experience leads me," he adds, "to think that there are numerous human beings in each nation who receive powerful and permanent tone from the impressions communicated to them by architecture." The importance of a prevailing standard of good design, of logical, comely compliance with our domestic and commercial needs, is very great.

I am not now thinking of great monuments. Placed in the hands of competent designers, the Government housing scheme may effect ethical results of more value to the nation than the satisfaction of its physical demands. The clerk and the artisan, on their way to the morning train, pass by rows of dwelling places, ill-planned within, monotonously vulgar without. "One of these days," thinks our friend, "I will have a house of my own," and in his mind the house of his desire shapes itself like to those he daily sees. What an ideal! Yet how should it be otherwise? The only effective education of the public in architecture is the object lesson of good design.

All creative art must have a motive. Guadet, in his wonderful "Cours d'Architecture," reveals the basic influence which governs our art, in an illuminating phrase. "The great architect of a period," says he, "is its social condition; the technician realises, but does not create, the aspirations of his time." Yet, while it remains true that architecture reflects, and writes in stone, the history of its time, the legend is no mere transcript, but a conception whereby the fertilising suggestion is transmuted, vitalised, and perfected. Versailles owed its existence to the autocratic splendour of Louis XIV., but the minds that created it were those of Mansard, of Le Nôtre, and Le Brun.*

The pageant of Versailles has passed into the Shades; there breaths no wind of life among the phantoms of that splendid court; alone, the artists' work remains, immortal. To us—as it did to them—inspiration must come from the living world, from those that are nigh to us, from the restless, limitless future. For good or ill, the old order is well-nigh gone; the short retrospect of our own lives tells of a mighty social change, and in the fruition of the new state architecture must fulfil its glorious part. "Did you, O friend," said Whitman, "suppose Democracy was only for elections, for politics, or for a party name?" and, "To the men and women of a country, its aesthetics furnish materials and suggestions of personality, and enforce them in a thousand effective ways."

THE NATIONAL HOUSING SCHEME.

Admitting—as we must—the value of art to democracy, its intimate connection with the moral welfare of a people, we cannot but applaud the attitude of H.M. Government with regard to the national housing scheme. Despite political reasons for erecting houses with headlong hurry, despite attack by those without knowledge of the prodigious work involved in the preparation of even a moderate-sized scheme (and many are on a scale never before conceived in this or any other country), the department charged with its administration has steadfastly insisted on standards of sound design and construction. Both the Prime Minister and Dr. Addison (who I regret cannot be present to-night) have made clear their determination that the land shall not be covered with the abominations of the old-time speculator. Their reward shall be an England of finer instincts, richer for a noble pleasure.

* On ne peut pas, Sire, employer trop d'étude pour concevoir quelque dessin qui réponde à la grandeur de vos intentions. Comme elles ont surpassé tout ce qui s'est fait dans les autres temps, il faudrait que leurs inconnus fussent aussi au dessus de tous ceux de l'antiquité.—François Blondel.

Architects—to the surprise of many—are now officially recognised as those most properly fitted to design houses, to plan the lay-out and extension of our cities and towns. We are grateful for that recognition; I do not hesitate to say we are giving of our very best in return.

To those impatient for results, let me say that economy in building is effected, not by the omission of ornamental details—and, indeed, it is but a poor design which needs them—but, by minute study of the plan and construction, upon whose importance I have already insisted. "Plan" means far more than the arrangement of rooms; it comprises the scrutiny of every foot of ground, its contours and subsoil, whereby foundation work is saved; it covers the economical disposition and grading of roads, the aspect of each house site, the water supply, lighting, drainage, and—in many cases—reasoned investigation of the general and local social problems incident to the formation of a township. "Construction," too, may be but a small thing in—for example—a cottage roof; but to perfect it, so that wood, slate, lead, and labour may be reduced in each of several hundred cottages, will perhaps need days of work and experiment. And the time lost in preliminary study is regained many fold in the end. To produce in bulk such comparatively simple things as shells needed months of preparation, but, when organisation was complete, they poured forth like water from a pierced dam. So, houses, far more complex constructions than shells, will presently arise as by enchantment: the process has already begun.

TRUE ECONOMY—PREVENTION OF WASTE.

Like religion, architecture, if it is to profit a nation, must be part of its daily life. It is in plan that lies the true economy—prevention of waste. Waste of time and energy, wandering about the tortuous passages of tube stations, where lifts are planned remote from trains, and fatuous stairs intervene between them and the platforms. Waste of property, in the squalid hinder parts of main-line stations, untidy, sprawling areas dotted with lamentable sheds, and linked by bridges whose building has darkened and desolated streets of houses; waste which defiles and depresses whole communities. I mention "backs," because architecture is matter not only, as is sometimes thought, for fronts, but equally for backs and sides; for all, in short, that connotes orderly, cleanly life, and the beauty of efficiency.

My predecessor in this chair has addressed you in time of war; to me, more fortunate, it is given to take up his arduous duties freed from the obsession of those dreadful days. In opening our first session since the declaration of peace, I welcome and congratulate those members who have served their country and returned in safety. If I do not at this moment dwell upon our losses, it is not that we are unmindful; we do not forget the gallant comrades who once sat with us. The Royal Institute has had its full share of bitterness.

War, like architecture, is an art, and is practised "according to plan." Its principles demand the same insistence on a leading motive, the same subordination of the part to the whole; and there is the hazard variant from which skill may make, or folly mar, success. The commander, like the architect, must work within the limitations of his budget, though his expenditure is counted not, alas, in terms of his employer's money, but of his men's lives! Marshal Foch, indeed, pushes the parallel still closer. "The development of the art of war is like that of the art of architecture. The materials you use for your buildings may change; they may be wood, stone, steel. But the static principles on which your house must be built are permanent."

Those who know me will not misunderstand: will not think me less enthusiastic for art, that I have dwelt almost wholly to-night upon plan and construction. Assuredly, I yield to none in my reverence for the sublime qualities of painting, music, sculpture. But, among the fine arts, architecture is unique in that it alone subserves utility. By reason of its very limitations—the intimacy of its

relation to the needs of humanity, its incessant confrontation with cosmic fact, and the rigorous severity of its principles—its votaries are compelled to understand widely, to see quickly and well, to be eclectic and tolerant while holding unsullied their own artistic faith. It is more particularly upon these grounds that I have ventured to assert the value of our profession to the State.

It is not among those callings which bestow great wealth on those who practise it. Few architects retire upon their earnings; fewer still leave riches at their death. Yet no art bestows greater fortune of pleasure upon those who give themselves wholly to its service; and what can money give besides?

To us, architects, the immortal words which Carlyle puts in the mouth of Teufelsdröckh yield their fullest meaning. "Not what I have," said he, "but what I do is my kingdom."

THE DISCUSSION.

The American Ambassador: Mr. President, my Lords, ladies and gentlemen,—A layman who finds himself suddenly confronting this audience of distinguished architects and artists may easily be at some pains to justify the permission of his presence in such surroundings. I should be entirely at a loss for such justification if it were not for a quotation which came to me the other day from a man who has written most sympathetically on the subject of architecture, and who is, I believe, of no small account in the craft. May I read you just this line in my own defence: "Every man has at some time of his life a personal interest in architecture. He has influence on the design of some public building"—more is the pity, but that is my parenthesis—(laughter)—"or he has to buy or build or order his own house. It signifies less whether the knowledge of other arts be general or not. Men may live without buying pictures or statues, but in architecture all must in some way commit themselves. They must do mischief or waste their money if they do not know how to turn it to account. Churches and shops and warehouses and cottages, and small row and place and terrace houses, must be built and lived in, however joyless or inconvenient; and it is assumed intended that all of us should have knowledge, and act upon our knowledge, in a matter with which we are daily concerned—and not to be left to the caprice of architects or mercy of contractors." (Laughter.) The sting of that quotation from John Ruskin, like the sting of the wasp, must be sought in the latter end; and, if the layman chances to be both layman and lawyer, he may comfort himself with some of the remarks of your President, which seem to draw more or less a parallel between the two professions. I should like to think that the definition which your President has given of the artist was true not only of the members of the architectural profession but of the members of the legal profession as well. (Hear, hear.) I am not sure that I can quote it, Mr. President. "A man who loves his work and yet is discontented because of his desire for a higher perfection than he has been able to attain"—and such is he, to pervert Wordsworth, who every man in arms, with the tool of his profession in his hand, might wish to be. (Applause.) I find some parallel also in the long catalogue of achievements which an architect must possess—artist, technician, mathematician, artisan, bricklayer, hygienist, business man, letter writer, and lawyer. (Laughter.) We lawyers are fond of saying that we must know a little bit about every man's business, and if the architect must be a lawyer there come to most of us times when the lawyer must wish to be an architect. (Laughter.) And still another similarity. I now learn, somewhat contrary to what I had previously supposed to be the case, that few architects retire upon their earnings or leave large fortunes at their death. (Laughter.) In that respect, at least, both professions can join with full assurance in the Psalmist's prayer. Give me neither poverty nor riches—being equally ensured against both. (Laughter.) I should hesitate to add anything to the catalogue of achievements that you

have laid down as necessary for those who would follow with success the architectural profession. There are, I think, three designations which you might have added, and the reasoning for which is given in the body of your address itself; for I must believe that architects have something more than adherence to all the professions you have named. They are, and this you have pointed out, the world's truest historians. It is they who write the imperishable records by which one civilisation and one age gives its message to those who are to follow. (Applause.) What we know to-day of the great civilisations that have come and gone, of Nineveh and Babylon and Egypt, even of Greece and Rome, is what the architects have written on the stones for our reading. (Applause.) All that we know on the other side of the Atlantic of those mysterious people who lived and flourished, and had reached rather an advanced stage of civilisation—the Aztec and the Inca—is to be found in what their architecture laid for our inspection. So the architect who builds to-day, builds not merely that he may satisfy the taste, the fancy, the comfort or convenience of his fellow-men for the moment, but to hand down to posterity the tale of what sort of man he and those who built with him were. (Applause.) I suggest for your consideration also that the architect is not only historian, but he is very truly statesman, to an extent, I think, larger than any others can say. Not only the daily customs and habits of men, but their mental conceptions, their ideals, their ambitions, their plans, and their purposes are dictated by their physical surroundings. Your artisan or clerk, who goes to and from his work past the lines of monotonous dwellings to which you have alluded, must carry in his mind some of the monotony which the surroundings through which he passes impress upon him. (Hear, hear.) Those who pass to and fro in the presence of great majestic structures, who see the power and permanence of their Government represented by the great buildings it inhabits, and whose minds are turned to thoughts of force and beauty by beautiful façades and lofty columns, will carry into their individual action something of the ideals those buildings have put into their minds. (Applause.) It is not for nothing that the Greeks appreciated that as perhaps no other people have ever done, and knew that from the hour of birth—indeed, before the hour of birth—the budding life should be surrounded by shapes of art and beauty which might flower in the subsequent life of their nation. (Hear, hear.) Then I suggest that the architect is not only historian and statesman, but also diplomat; for he speaks the universal language, a tongue that needs no interpreter, no grammar, and no dictionary; but by which the people of one country may speak across the intervening spaces to another and tell them of their ideals and of the life which they enjoy. It would, Mr. President, be to gild the lily or refine the gold to add anything more to the lofty address which has been delivered to us, so instinct with pride in your great profession, so inspiring in its helpful appeal to our highest ideals. I have leave to submit a motion of thanks to the President for the address with which he has honoured us. (Applause.)

Sir Aston Webb, in seconding the vote of thanks, congratulated the President on the position that he held, and assured him that any help he might need from the other members would be always at his disposal. They were not unmindful of the work he had already done; they remembered the Town Planning Congress he had organised.

Having alluded to the presence of the American Ambassador, and recalled a previous occasion when the Institute had been similarly honoured, Sir Aston Webb continued that at one time British architects used to keep their weather eye mainly upon France. The other eye was now very largely fixed upon what was being done in America, and they were delighted with the seriousness of the work of the American architect and the way he met problems which had never had to be met before. He had hoped there might be present at the meeting Mr. Cass

Gilbert, who used to send him over views of some of the works that he was carrying out. These included the Treasury Building at Washington—a building founded on a tradition which all architects attempted to follow—and also some most interesting drawings of buildings erected in New York for war purposes. These had been worked out in a most marvellous way, and produced at the same time a very artistic result. They were huge factories for the preparation of war material. Railways ran under them to pick up shells, which were then run out to the docks, where they were weighed and put on to the ships. In this design you saw at once the idea of a great man working at a comparatively new problem.

Speaking of the men who went to the front, Sir Aston Webb thanked the President for his allusion to them. Architects had, he said, answered splendidly to the call; there had not a man been left in the schools. We were proud of them, and rejoiced to see them back. (Applause.) But it was impossible to say that without mentioning also those who went out and never returned. (Hear, hear.) He did not know that he could talk to much advantage on architecture; there were two things wanted to produce good architecture. One of these was education, architectural and general. The other thing that could influence the future was the endeavour of architects to put up good buildings themselves. The educational value of a good building was almost impossible to exaggerate. He had been told by a keen-witted business man in New York that he often went out of his way to go past the library which had been put up for Pierrepont Morgan; and there was a story of Lord Leighton visiting the City on a Sunday to look at a building the sight of which he found rejuvenated his Greek sense of beauty. He thought it was much pleasanter and more useful to try and find out the good points of a building than to find out the bad ones. (Hear, hear.) To say to a young man, "Well, now, I like that very much," or "That is really a very nice little bit," might lead to great results. Criticism in the proper place was a right thing, but a kind word might do a great deal of good and bless him who gave as well as him who received. There was a certain painter who was just on the verge of throwing up everything, because he felt that he had been working at it for a long time and that people did not seem to care about his work. But one morning, to his great surprise, he had an invitation from Lord Leighton to go and dine with him. Upon this he said, "Hang it all; if I am good enough to be asked to dine there I will stick it a little longer." He did so, and finally became a Royal Academician. One way in which architects were advancing was that when he was a young man they thought mainly of detail. When a man got a house, or church, or something to build, his first thought was of what sort of details there should be to the windows, or something of that sort. That was a fatal thing. But architects had got out of that, and when they were designing a building they thought first of all of mass and proportion. They were getting on to the point when they would think how that particular building would look in the street, wherein it was going to be placed; but he was not sure they always did that yet—sometimes they might even think how much they could snuff some of the other buildings. (Laughter.) What ought to be done, and what they were getting towards doing, was to try and make their work not like an individual work, but to make it part of a whole thing. In addition to that, they were also paying great attention not only to the particular street, but to the direction of the whole of the streets, which meant town planning. He thought this a very wholesome sign. Their President had given them a very encouraging account of the housing schemes now going on, and had said that architects were now officially recognised as fitted to design houses. But he did not know that it had gone very much further than recognition. He knew there was an enormous difficulty—Dr. Addison was being pressed to produce the houses at the greatest possible speed—and, although he might be wrong, he was under

the impression that the houses were being carried out mainly by the borough surveyor with the help of a clerk to take up the additional work thrown on his shoulders. He did not look forward altogether with pleasure to the time when the houses would fall in upon us like water from a pierced dam. (Applause.) The war was over, and he would like the Institute to come out of its shell. It had necessarily been somewhat quiescent during the war, and he might also add, without being querulous, that the authorities had not made as much use as they might have done of the architects who had not gone to fight. The desire for recognition, they had all felt, was not for purposes of gain; it was merely that they wished to have the honour and privilege of doing something for the country during a time of stress and strain. (Applause.)

The vote of thanks was carried by acclamation.

The President, in acknowledging the compliment, said he would not keep the meeting long, but it would be ungracious to leave without thanking Mr. Davis and Sir Aston Webb for the kind things they had said and the audience for their approval. The American Ambassador might be assured that architects were not likely to develop into lawyers; if they learned just a little about the fringe of that very great profession, they would be very well satisfied. On the other hand, he hoped that lawyers would be content to keep on the fringe of architecture. (Laughter and applause.)

THE SOCIETY OF ARCHITECTS WAR MEMORIAL.

VICTORY SCHOLARSHIP.—After careful consideration of the suggestions made by members of the Society for a suitable war memorial, the Council of the Society of Architects has decided in favour of a proposal made by several members to found a scholarship in architectural design to be designated "The Victory Scholarship." It is to be of the value of £50, and to be open for competition as often as the fund to be raised and invested for that purpose will permit, which it is hoped will be annually, to any person not exceeding thirty years of age. The competition is to be conducted on similar lines to the Prix de Rome, and the scholarship is to carry with it the gold medal of the society.

It is thought that members will welcome an opportunity of contributing to a fund which will perpetuate in a manner acceptable to the profession, and advantageous to the cause of architectural education, the part which the members of the society took in securing victory.

It is not proposed to publish the amounts individually subscribed by members, but only the total of the fund, and while no limit is placed upon the donation which any member may desire to contribute, it is pointed out that if each member, when paying his annual subscription, were to add one guinea to it, a sum sufficient to provide by investment an income of £50 per annum would be at once available.

In any event, all donations, whatever their value, will be equally welcomed, and if a member desires to spread his donation over a given period it is hoped he will do so.

It is hoped that members who find it convenient to do so will send in their contributions by November 13, to the secretary, Mr. C. McArthur Butler, 23, Bedford Square, W.C.1.

Forty-three poets, old and young, have expressed to Mr. Thomas Hardy, O.M., the esteem and affection in which they hold him. This year Mr. Hardy has reached his 80th birthday, and it was thought a fitting time for his fellows to lay their tribute at his feet.

The Middlesex County Council has accepted the tender of Mr. John Moffatt, of Manchester, amounting to £356,081, for the construction of the first section of the Great West Road (a length of about three miles), the widening of Syon Lane, Isleworth, and the construction of the new spur road at Bush Corner, Isleworth.

Our Illustrations.

NEW HOUSE AT PAMPISFORD.

The drawing reproduced was included in the Royal Academy Exhibition this year. This Cambridge house is for Lieut.-Col. P. Hudson. Mr. H. Austen Hall, F.R.I.B.A., is the architect. The walls are to be finished in stucco and the roofs covered with thatch, the chimneys being in brickwork. Terraces and a formal garden add to the interest of the buildings, set off as they are with high-pitched roofs.

LOWER SCENE, HYTHE, KENT.

This house was built just before the war. It is situated on the golf links at Hythe, in Kent, and commands a fine view of the sea to the south and to the west a delightful outlook over the Romney marshes. The plan is somewhat unusual, the approach from the kitchen quarters to the front door being through the dining-room. By this means, however, considerable corridor space was saved, and with a room used solely as a room for meals this has few disadvantages. The roofs are covered with reed thatching and the walls are rough plastered externally. The drawing from which the reproduction is made was hung in this year's R.A. exhibition. Mr. Oswald P. Milne, of 97, Jermyn Street, is the architect.

EXAMPLES OF THE DECORATIVE OF THE LATE HORATIO WALTER LONSDALE.

Last week we began a short series of designs and autograph drawings by the late H. W. Lonsdale, and we printed a biographical notice written specially for the *Building News* by Mr. R. Willes Maddox, his intimate friend and executor. To-day we reproduce two photographs of silversmith's work and a study of drapery. The loving cup, with its silver cradle, was made for Mr. Lonsdale by Messrs. Barkentin and Krall and presented to Mr. Frederick Morshead by the City of Winchester. The christening cup was designed and executed for Lady Margaret Crichton-Stuart. The seated female figure has a detail, shown in the margin, of the left hand and giving the folds of a hanging drapery, intended presumably as an alternative treatment, much adding to the interest of the drawing, which we reproduce in fac-simile.

WAR MEMORIAL.—PROPOSED EXTENSIONS, NOTTINGHAM GENERAL HOSPITAL.

It is proposed to reconstruct and extend the Nottingham General Hospital as a war memorial by increasing the number of beds up to 400 and building a new out-patients and casualty department. The site of the suggested additions is occupied by a number of detached houses, chiefly used for nurses' homes. These will be demolished, and a new nurses' home to accommodate 220 sisters, nurses, and maids erected on the Lenton Road front facing the Castle Grounds. The main corridor of the hospital will be continued and new ward blocks, etc., erected and connections formed to main corridor on the various floor levels. Dr. D. J. Macintosh, C.B., has been consulted, and the present scheme has been prepared in conjunction with him by the architects to the hospital, Messrs. Evans and Sons, of Nottingham.

Building on the Kettering housing scheme is to commence in a month's time. Several protests have been received against the conversion of the Army mess huts in the Pleasure Park into dwelling-houses, but it is stated that the arrangement was only a temporary one, and that the scheme had been approved by the Ministry of Health.

THE LIVERPOOL ARCHITECTURAL SOCIETY.

Addressing the Liverpool Architectural Society last Monday evening, Lord Leverhulme said the Royal Institute of British Architects, in conferring upon him the highest distinction they could bestow, a Hon. Fellowship, took the precaution to obtain his signature to a document stipulating that he should not charge any fees. A Lancashire man, on being asked where he met his wife, replied, "I did not meet her; she overtook me." He (Lord Leverhulme) did not know whether he overtook architecture or architecture overtook him, but he could say that his study of architecture had been an asset in his business and transcended all the other hobbies which commercial men could adopt either for recreation, enjoyment of holidays, or the needs of their own businesses. He had seen many instances where a business had been choked in development, and perhaps eventually strangled, simply by the neglect of scientific planning in the early stage. The business, in short, became tied in a knot which could only be unravelled by removal to a building fittingly placed. Having acknowledged his own indebtedness to architects, he pointed out to house builders the wisdom of bearing in mind the changing habits of the people.

Regarding factory construction, he confessed himself alarmed at the requirements of modern architects as to safety. Some architects produced far in excess of their instructions, and thus added seriously to the cost of production at a time when high wages called for structural economies. Therefore he hoped that with abundant wages the workers would produce abundantly. Subsidies to house rents might run a short course, but such devices would not help workmen permanently. In what way could production be cheapened? He would take painting as one illustration. Squirting the paint on was not equal to the working of the paint into the grain of the wood with the brush, but it cheapened the cost of production and indicated the trend of the times. As a result of a masons' strike in this country, masons were receiving a considerably less share of the work on public and private buildings than before the strike, for materials cheaper than stone were being used, though most people would gladly have stone rather than concrete or other substitutes.

At a recent conference of an engineering trade, a distinct policy was avowed of obtaining as high wages as possible and doing as little as possible in return. The conference speaker who made this declaration was asked to withdraw it, but he refused. That appalling attitude, if persisted in, must affect the architectural profession injuriously. Under present circumstances, only a city council or other local authority with rates to draw upon could build houses, but he was confident that the requirements of the public would be best served by the private builders who had met the needs of the people in the past at a small margin of profit, and without dumping houses on the Government taxes or on the rates.

The Castle Bytham Parish Council have resolved to build no new houses for the present, "considering the exorbitant price of building materials."

The annual Art Exhibition promoted by the Kettering District Art Society was opened last week by Mr. T. C. Gotch, P.R.B.C., R.I. Mr. Gotch also judged the competitive classes. Numerous eminent artists also have sent works for exhibition.

Cardiff General Purposes Committee on Monday, with one dissentient, passed a resolution expressing strong protest against "the indifference and apathy shown by the Health Ministry in the matter of facilities for building sufficient houses in Cardiff," and demanding reasons for the holding up of the negotiations.

One hundred houses at Oswestry are going to cost £30,000. The rental required would be £1 13s. 9d. per house, but the Housing Committee say ten shillings a week will be all the Council will be able to get, and after the Government has contributed its share there will be a deficit of £2,427 a year, equal to a rate of 9½d. in the pound.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended October 25 was 211, bringing the total number of schemes submitted to 5,648, comprising about 47,500 acres. The total number of schemes approved is 2,055, comprising about 22,600 acres.

House-plan schemes representing 2,307 houses were submitted, and schemes representing 1,597 houses were approved during the week. The total number of houses represented in the house-plan schemes submitted is 45,145, and in the schemes approved is 28,965.

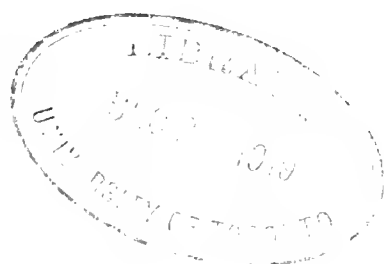
The Standardisation and Construction Committee appointed by the Minister have recently approved several special methods of construction, including many different forms of concrete construction. Some of the firms responsible are prepared to build houses in large numbers throughout the country. Foreknowledge by the local authorities of the various methods of construction approved by the Ministry will, it is thought, facilitate the progress of housing schemes, and particulars of these special methods are given for the information of local authorities in No. 8 of "Housing," issued by the Housing Department of the Ministry.

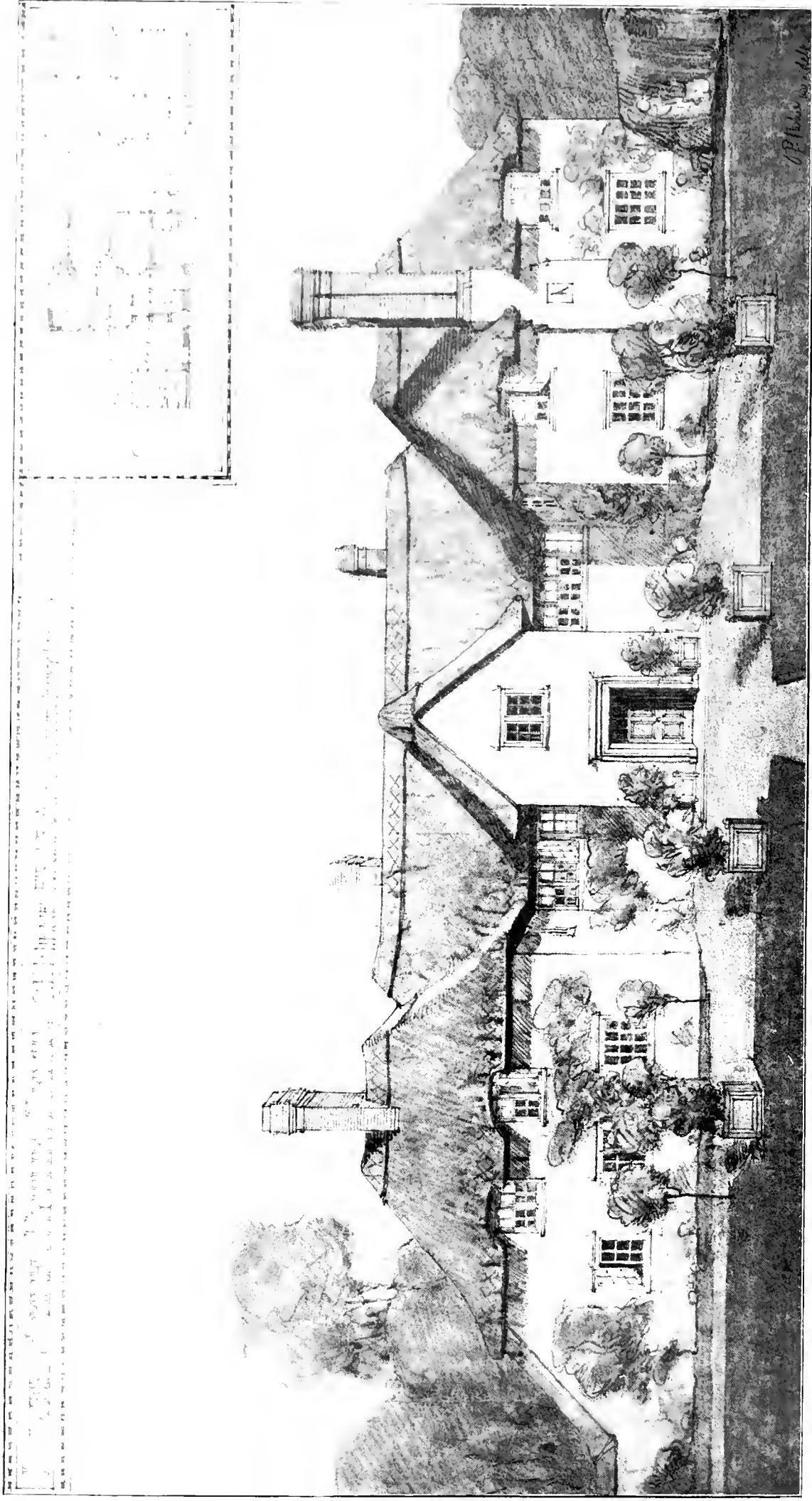
Other special methods of construction are now under the consideration of the Standardisation and Construction Committee. Information as to such of these methods as may be approved will be published in due course.

OBITUARY.

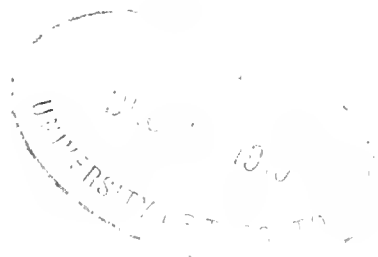
We regret to record the sudden death of the architect of several London churches, Mr. J. S. Alder, F.R.I.B.A., of 1, Arundel Street, Strand, and Bedford Gardens, Kensington. He was attacked by his fatal illness five weeks ago, and underwent an operation on the 23rd ultimo, after which the patient was making a good recovery, when septic poisoning intervened, and he passed away on the 28th ult. The funeral took place on Saturday last at Carshalton Parish Church. Mr. Alder's father was a builder at West Malvern, through whose workshops he passed, afterwards acting as clerk of the works. He was articled to Mr. Haddon, a local architect at Malvern, who not only gave him his articles but paid him a salary, recognising the capability of his pupil. In 1872 Mr. Alder became manager to Mr. Preedy, whose ecclesiastical practice at that period was extensive, and on the death of his principal Mr. Alder took up some of his master's work. In 1899 he competed for the new Church of St. James, Muswell Hill, and was chosen. This work led to several other commissions, among them St. Stephen's, Bush Hill Park, illustrated in our issue of February 26 1904; and St. John's, Greenhill, Harrow (in that of February 17, 1905); Temple Grafton Court, Warwickshire, an earlier undertaking for Mr. D. S. Gregg, J.P. (in that of March 30, 1888); and another domestic work at Maddersfield Court in 1895; St. Peter's Church, Tottenham, was built in 1894, and we gave it on December 28 the same year; St. Catherine's Church, Neasden (we gave on January 17 and March 21, 1917); St. Barnabas' Church, N. Finchley (on August 18, and November 3, 1915, and February 16 1916); St. Michael's Church, Mill Hill (on September 15, 1915); St. Andrew's Church, Sudbury (on February 9, 1916); and Potter's Bar Church (St. Mary and All Saints) (on April 25, 1917). Last year Mr. Alder exhibited a fine series of large photographs of some of his churches at the Royal Academy. They were well placed on the line. He was elected a Fellow of the Institute in 1916, and he was seventy-one years of age when he died.

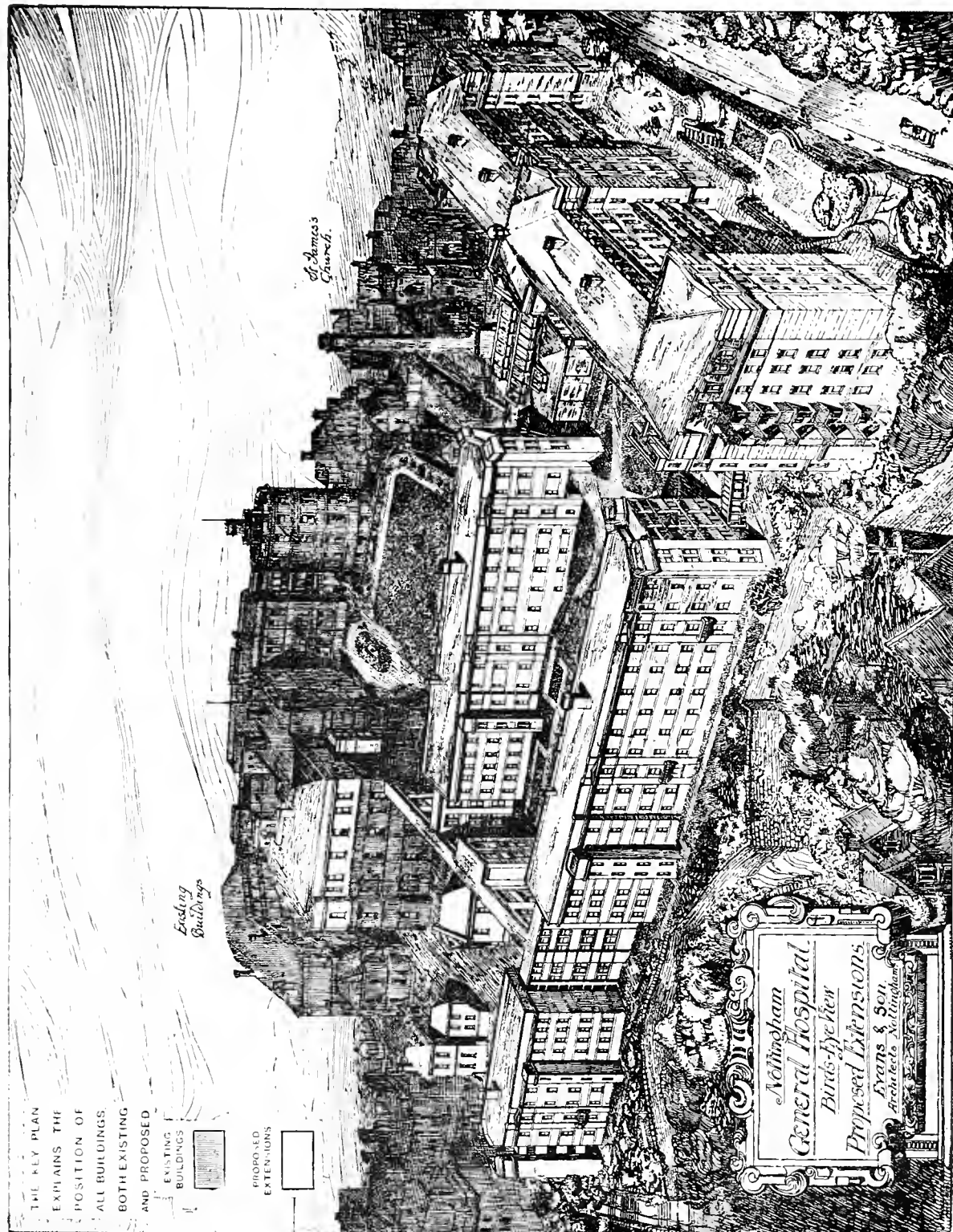
The War Risks Insurance Office at 55, Cornhill, E.C., has been closed, and all correspondence relating to the business of the office, including any business connected with the Air Raid Compensation Scheme, should now be addressed to the War Insurance Accounts Branch, Board of Trade, Gwydyr House Annex, Whitehall, S.W.1.



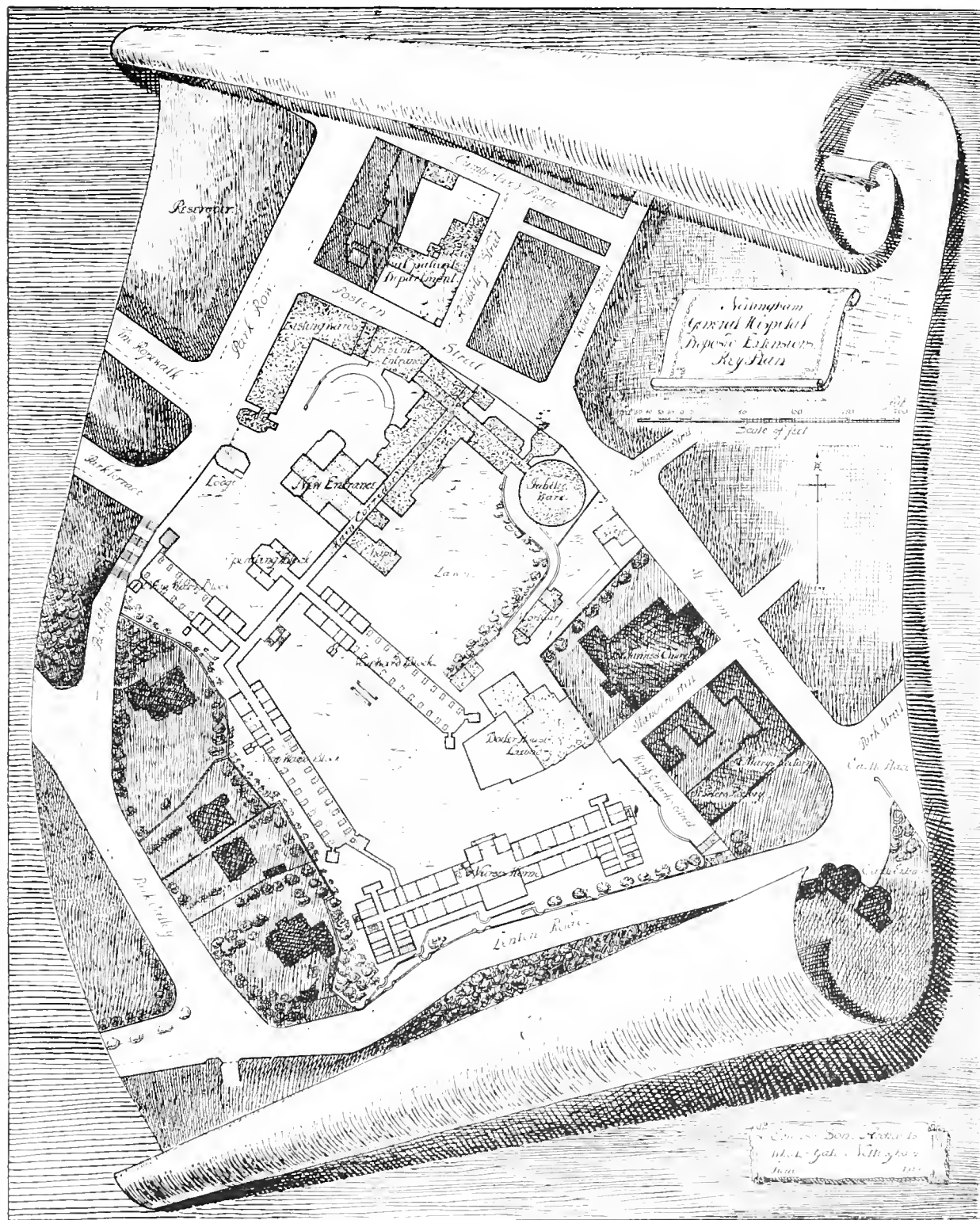


"LOWER SCENE," HYTHE, KENT: ENTRANCE FRONT.—Mr. O. P. MILNE, F.R.I.B.A., Architect.



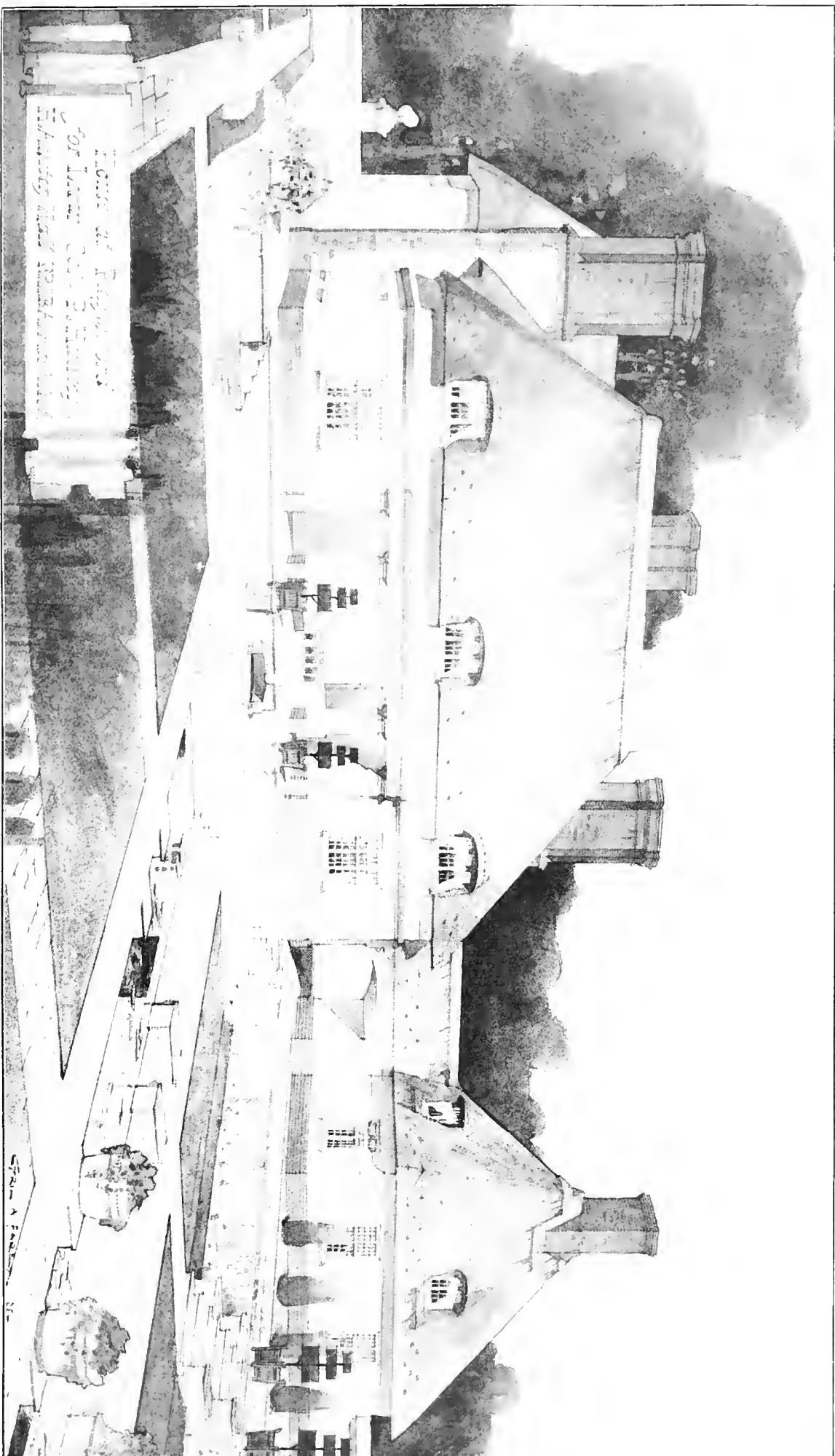


NOTTINGHAM GENERAL HOSPITAL EXTENSIONS: PART OF WAR MEMORIAL.
Erwin Ried.
Messrs. EVANS & SON, Architects.



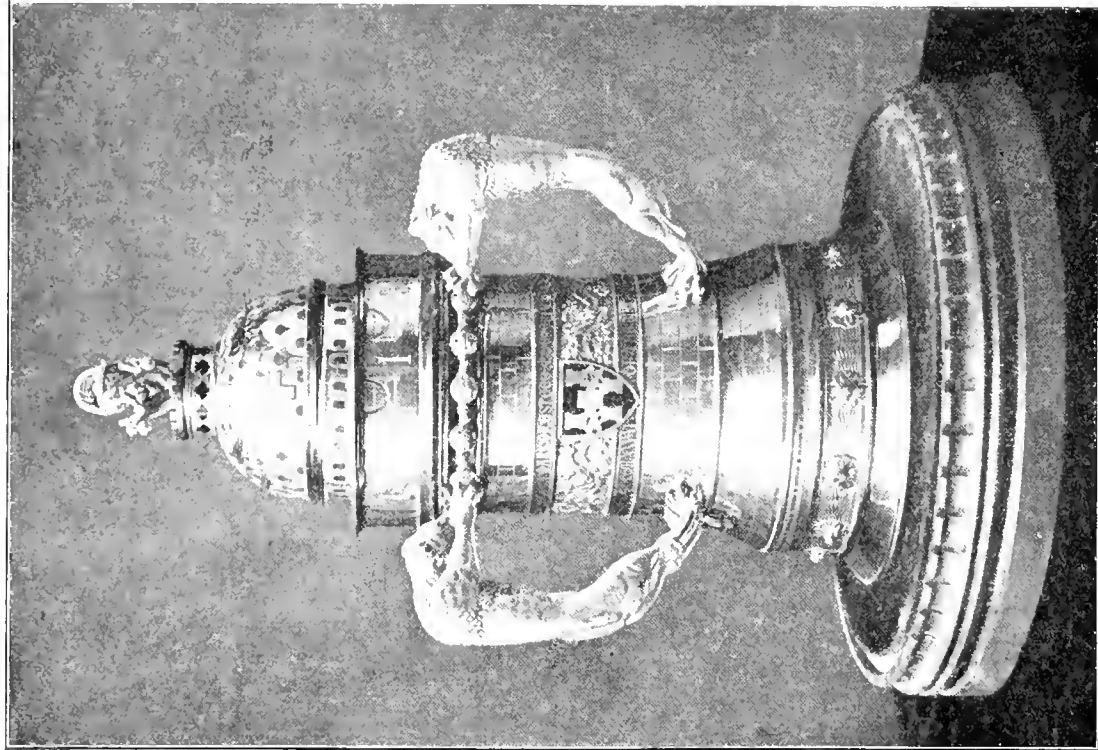
NOTTINGHAM GENERAL HOSPITAL EXTENSIONS: KEY PLAN.
(PART OF PROPOSED WAR MEMORIAL.)

Messrs. EVANS & SON, Architects.



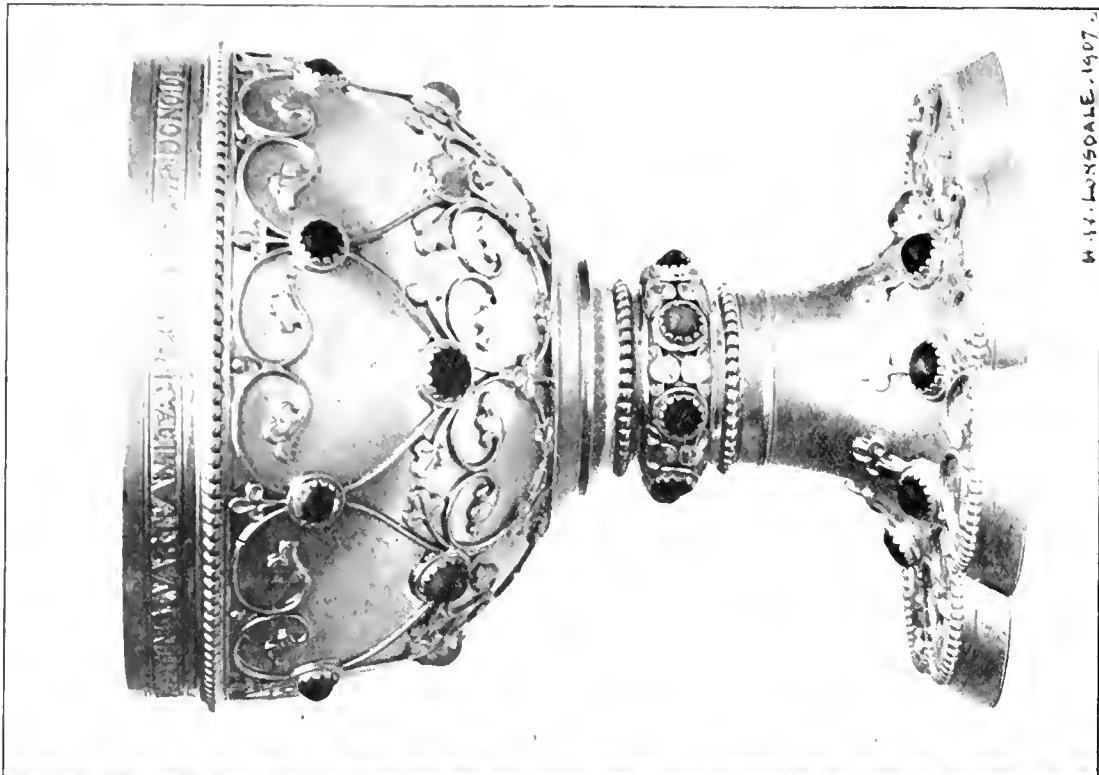
NEW HOUSE AT PAINSFORD FOR LIEUT.-COL. F. HUDSON.—MR. H. AUSTEN HALL, F.R.I.B.A., ARCHTCT.





LOVING CUP FOR THE CITY OF WINCHESTER.

DESIGNED BY THE LATE H. W. LONSDALE.



H. W. LONSDALE, 1907.

CHRISTENING CUP FOR LADY M. CRICHTON-STUART.



STUDY OF DRAPERY-FIGURE FOR STAINED GLASS.

Designed and drawn by the late H. W. LONSDALE.



BRITISH HOUSE-BUILDING METHODS.

BY SIR CHARLES T. RUTHEN, O.B.E., F.R.I.B.A., M.S.A.

Consequent on our full report of Sir Ruthen's paper, read on October 16 before the Society of Architects, we have had a number of inquiries, among them where the Bishopric Stucco Board can be had. It is made by the Modern Homes Construction Company, Prudential Chambers, Swansea, who will doubtless give further information to inquirers. On other points we refer readers to the fully illustrated report in the November issue of the Journal of the Society of Architects, just issued, a copy of which can be had by non-members for sixpence from Mr. C. McArthur Butler, the Secretary of the Society of Architects, 23, Bedford Square, London, W.C.1.

We append a report of the discussion which followed the reading of Sir Charles Ruthen's paper.

Mr. A. Moore (Epsom) said he was not an architect, but he was able to state that in Epsom there was a large number of timber-built houses, which had been in existence since the middle of the 17th century. They were as good to-day as ever, and were commanding rentals as high or higher than when built. They had no brick foundations, and the only thing against them was that some of the older ones had developed a species of infectious mildew which spread over all the houses in an extraordinary manner. There were no proper dampcourses in the houses, which perhaps accounted for this.

Mr. Manning Robertson (Ministry of Health) referred to the possibility of dry-rot. He was not clear whether the walls were to be finished on either side with impervious material, or with lath and plaster on the inside; and whether it was intended to ventilate the cavity in the roof?

Sir Charles Ruthen said the idea he had when he started these houses, was to try to close up the avenues of criticism. He thought if he used very thin or common slates he would be criticised. His Precelly slate roof weighed five and a-half tons. Private enterprise was not building at present and middle-class and working people had to look to local authorities and public utility societies for their housing. He wanted the middle-class man to see in the houses which he (the speaker) put up, a house suitable for the middle-class man or the workman. He did not want people to say "This is a rapidly built house and looks it!" His chief aim was not to erect cheap houses, but good houses.

Major Fred J. Edge, R.E. (Housing Commissioner, Newcastle-upon-Tyne) asked if these timber-frame houses were suitable for erection on unstable foundations. In colliery districts a great deal of trouble was caused by the Ministry of Health condemning sites on account of coal workings underneath. He looked upon the paper read by Sir Charles as the most useful contribution made on the subject of housing since he (the speaker) had taken any interest in the subject. He was not an architect, but an engineer, and was brought into this matter by the Ministry of Health. He claimed for engineers that they had got rid of old methods of construction, and were always finding new ones. He hoped architects would help them in this question of housing by utilising all methods which would help to solve this problem.

Sir Charles Ruthen said he had tried to keep all unessentials in the background. The structure of his houses was of a monolithic nature, and nothing could be better for bad ground. Thousands of nails were used in the construction of each house, and this so bound the whole together, that it became a reinforced-concrete structure. It would be practically impossible in a properly constructed building of this type for a corner of it to settle.

Mr. S. Pounton Taylor (Ministry of Health) expressed the view that with timber framing, and Bishopric stucco boarding, two vertical dampcourses outside and inside were provided. The trouble would be to get sufficiently dry wood to prevent dry-rot. He thought that even the most sceptical people

who had heard the lecture would be satisfied that a good case had been made out for the wooden house; but the question of making these houses fire-resisting, and minimising the danger of fire spreading even with only twelve houses to the acre in urban districts and eight to the acre in rural districts was a serious one. There should be a space of 9 in. between the fireplaces and flues and any timber, instead of 4½ in. Every effort should be made to render wooden buildings vermin-proof. Another point was the porosity of bricks making houses musty. The fact was that the porosity of materials helped to solve the problem of ventilation. The amount of air which penetrated a 9 in. or 18 in. brick wall was surprising. A room could be hermetically closed, and yet life could be maintained in it for a long time provided the walls were of brick of a certain porosity. It was a problem of the ventilation of houses which had impervious materials on the outside and the inside—the question of condensation did not arise. A point in favour of wooden-frame houses was their suitability for erection in areas subject to subsidence. They had trouble all over the mining areas in this matter on the question of compensation. With regard to the manufacture of the sheathing, this appeared to be the root of the system, and he hoped that when wooden houses were going to be erected in anything like large numbers, some British firm would take up its manufacture.

Sir Charles Ruthen said that the previous speaker had removed the houses from the places where they were wanted to the places where they were not wanted. It was very nice to talk about types of houses, but rapidly came first. He would like someone to get out statistics of the fires in this country, and see whether such a point was worth considering in face of the tremendous housing question. What happened to brick houses when a fire occurred inside? They usually had wooden floors and fittings, and the interior of the house came down like a pack of cards. There might be some possibility of fire from external sources, but he failed to see, with the use of impervious material and houses twelve to the acre, how they were to have anything like a "prairie fire." On the question of the porosity of materials, that was the first time he had heard the liability of bricks to dampness quoted as an argument in their favour, or of porous bricks being used as an aid to ventilation. If there was any shortage of air in rooms, people occupying them must be taught to open the windows. Damp walls meant ill-health and death; to put people into damp houses was certainly one method of solving the housing problem!

Mr. A. Moore (Epsom) said the chief of the Epsom Fire Brigade was present, and informed him that no fire had occurred in his recollection in the timber-frame houses in that town.

Mr. W. H. Leverton (Dorking) said Sir Charles had seen the model, and had successfully supplied it. In the case of a fire in a brick house, the floors and roof would soon be burnt out, but the party walls would prevent the fire from spreading to the next house. It would be a great advantage to have plenty of air space round wooden houses. Restrictive building by-laws, which were the root of all housing troubles, must be altered to meet the present needs.

Major Harry Barnes, M.P., F.R.I.B.A., M.S.A. (Newcastle-upon-Tyne), said that on Tyneside they were proud of the attention which Sir Charles had given to this problem, and in order to solve it they must avail themselves of all the resources of the country and of all building methods. There was no more promising method than that described by Sir Charles Ruthen. There was no doubt that where there was a danger of subsidence the advantages of this method outweighed any disadvantages. If Sir Charles could persuade the Ministry of Health to adopt that type of house in the coal and salt-mining districts, he would get a chance to show the real merits of the scheme.

Mr. F. E. G. Badger (Director of Housing, Liverpool Corporation) said the propaganda in the Press with regard to the cost of wooden houses was absurd. They were no

cheaper than the brick houses being built now, and the newspapers ought to know the views of experts. The weight of timber in a wooden house of the type required would be about fifteen tons; the additional freight charge was £105 on the quay in England, and, with the expense of transit in England, the probability was that they would have to add some £500 to the cost of the same building in America. The more the construction was all right, except for the foundations, and if a reinforced concrete foundation was used instead of brick, he thought they might with more confidence approach the Ministry of Health.

Sir Charles Ruthen intimated that he was not approaching the Ministry of Health, but simply putting forward what might be useful information. If the Ministry approached him, he would do anything in reason for the department. The Ministry of Health might, or might not, be working, but the results were not being seen. He was troubled for the people who had no homes. It was time that the Ministry got a move on, and instead of criticising they should put forward something which they would agree to themselves. If that was not possible, they would wait until there was a housing revolution, when those who had no homes would take from those who had. On the outbreak of war, the number of men engaged in the building industry was just over 900,000. This number was reduced by the war to 700,000, and there had been no apprentices during the war period. It would require 2½ times as many men as in pre-war days to tackle the problem by pre-war methods in five years. The difficulty at the present moment was labour. They could add to the number of men in the building trade by adopting the system of wooden-frame houses, because they could use much unskilled labour. The house at Newton was started and completed within thirty days.

Mr. Edwin J. Sadgrove, F.R.I.B.A. (the President), in conveying a hearty vote of thanks to the lecturer, said that as a result of the discussion and Sir Charles Ruthen's replies, they could form their own opinions as to the weight attaching to the criticisms made by various speakers. Every credit was due to Sir Charles for giving them a practical demonstration of what could be done, not only on paper, but in actual construction. These buildings were weatherproof, and in every way suitable as homes for the people for whom they were intended. There was room for all kinds of substituted building materials if the time could not be spared and the materials obtained for the erection of the buildings of the kind they had been accustomed to in pre-war days. They must get the houses up in some form or another. Sir Charles had placed before them one type as being suitable, and, while there were also others, he must say that he thought Sir Charles had made out a good case.

Sir Charles Ruthen thanked them for the vote of thanks, and expressed his pleasure at seeing so many architects, engineers, and representatives of local authorities present. They would appreciate that it required some pluck to erect experimental houses, and stand up to be shot at (as it were) by the community. Personally, that did not hurt him, but there were others who would not come forward, because there were so many people sitting in high places ready to jump on them. He valued very highly the criticisms which had been levelled against the system; constructive criticism was good. He hoped that this slight effort of his would be the cause of building up rapidly some decent homes for the people.

Mr. H. P. Burke Downing, of Westminster, has been elected the new Diocesan Surveyor for the Diocese of Southwark.

The Minister of Health has appointed a committee composed as follows to inquire into the provisions and effect of the Metropolis Water Act, 1902:—Sir H. C. Moore, K.C.B. (Chairman), Mr. F. J. Willis, C.B., Mr. E. A. Loes, Major-General Sir Henry Thornton, Mr. R. C. Norman, Sir Gilbert Garnsey, and Mr. G. H. Stuart-Burnings. Mr. E. S. Hill, Ministry of Health, Whitehall, S.W.1, has been appointed secretary to the committee.

Correspondence.

LONDON BUILDING ACT, 1894—COST OF PARTY WALLS.

To the Editor of THE BUILDING NEWS.

Sir,—We venture to ask you to publish the award of Mr. W. E. Riley, late superintending architect to the London County Council, on a matter which largely affects all owners of property, and which is incidentally of moment to all architects and surveyors.

In dealing with the party wall awards since the Armistice, architects have been confronted with the difficulty of determining whether the owner of a site upon which he is about to erect a building and proposes to make use of existing party walls shall be compelled to pay to the owner of the existing party walls the cost of the wall at present-day prices or at the price when the walls were erected.

The enormous increase in the cost of building since 1914 has rendered it desirable to have an authoritative opinion for the guidance of property owners and their agents, and this is our excuse for asking for the favour of the publicity of your columns.—We are, yours faithfully,

C. F. NORMAN, F.R.I.B.A.
J. S. GIBSON, F.R.I.B.A.

5, Old Bond Street, W.1,
November 5, 1919.

EXTRACT FROM MR. W. E. RILEY'S AWARD, UNDER PART VIII. OF THE LONDON BUILDING ACT, 1894.

"That the building owners shall be at liberty, subject to the provisions of Part VIII. of the London Building Act, 1894, at any time and from time to time, to use the whole or any part of the said party wall for the purposes of any proposed new building, upon first making payment to the adjoining owners of a moiety of the costs and expense of the erection of such portion or portions of the said wall as they, the building owners, may so desire to use, such moiety to be ascertained by measurement and valued upon the basis of the actual expense incurred by the adjoining owners at the time the said wall was erected."

STATUES, MEMORIALS, etc.

KIDDERMINSTER.—The Mayor of Kidderminster presided over a meeting held last week to decide what course should be taken with regard to the local war memorial. At the town's meeting three schemes were approved—a permanent memorial in the form of statuary, the erection of a children's hospital, and club premises for the discharged soldiers and sailors, the estimated cost of the three schemes being £40,000. The Mayor said the scheme was overloaded, for the subscriptions received and promised showed clearly that the proposals could not be carried out. He recommended concentration upon the permanent memorial, remarking that Mr. Drury, R.A., had prepared designs, and leaving the other schemes for later efforts. The meeting decided to recommend a town's meeting to abandon the two schemes, and to concentrate effort on the erection of the statuary on a site near the parish church.

At Tottenham last Friday night, at the Parish Church, the Archdeacon of Hamstead dedicated the War Memorial Cenotaph which had been completed that week in the south aisle near the main entrance and on the oldest wall of this historic building. The monument takes the form of a mural triptych, 10 ft. high and 7 ft. wide, set out in incised lettering with the parochial roll of honour. Emblazoned shields bear the arms of the Diocese of London and the County of Middlesex, and the Lion and the Unicorn. Over the dedication tablet is carved the emblem of All Hallows, the ancient Celtic endless band in white on a blood-red field. Sculptured cherubs of Grinling Gibbons type give interest and are in character with the design, which is the work of Mr. Maurice B. Adams, F.R.I.B.A., the architect of the marble cartouche in the same church erected by Sir Herbert Nield, M.P.

Our Office Table.

The National Board of Conciliation for the Building Trades held a meeting at the Connaught Rooms on Tuesday for the purpose of considering a difference which has arisen between the London District Council of the National Federation of Building Trades operatives and the London Master Builders and Aircraft Industries Association with respect to rates of wages in the London district. On a resolution proposed by an employer offering an advance in wages of 2d. an hour on November 15, with another penny on January 5, and making other conditions, the voting was equal, and no decision was reached. Several other resolutions were submitted, but a deadlock ensued, until by two votes the following decision was reached: "That on November 15 the rates for mechanics and painters shall be raised 2½d. per hour and for labourers 3d. per hour, and that on May 1, 1920, a further increase shall be made to every trade of 1d. per hour; these rates to remain in force for nine months from November 15 next." Another resolution was moved and seconded by the employers, that the question of piecework or bonus on output being of such importance to the building trade generally, it be referred to a joint conference of the employers and operatives, but no decision was come to, the contention being that the representatives of the operatives should give no opportunity for misunderstanding on the part of their members.

According to the Land Registry account the total fees received were £36,618, an increase of £16,495 as compared with the year ended March 31, 1918. The total expenditure was £63,463, from which is deducted £7,291, the proportion of expenditure chargeable against the Land Valuation Office for accommodation and incidental expenses, and £1,218 salaries and war bonus of members of the staff lent to other Government Departments. The net expenditure, therefore, was £54,953, a net increase of £6,887 on the previous year. The largest item on the expenditure side was £42,711 for salaries and war bonus, which was £5,872 higher than in 1918.

Dr. Niven, the medical officer of health for Manchester, in a report to the Housing Commissioner, states that the estimated population of Manchester is 777,076, which does not take into account 21,000 men still due to return from the army. The anticipated increase of working-class population due to industrial changes in three years is about 5,000. The number of dwelling-houses in the district is 154,697, of which 128,629 belong to the working-class type. In the five years before the war the average number of working-class houses built annually reached 1,604, and between January 1, 1915, and December 31, 1918, only 492 houses of this type were built. There are few empty dwellings which could be made suitable by repairs or alterations or conversion into flats for housing the working classes. With regard to overcrowding, the number of houses intended for one family only which are now occupied (without having been specially adapted) by two or more families is estimated at 8,027. His estimate of working-class houses required is:—

Houses.	Next three years.	Ultimately needed.
To meet the unsatisfied demand...	17,727	17,727
To rehouse after clearances of unhealthy areas	—	2,174
To replace dwellings unfit for habitation	1,290	1,290
To replace obstructive or other buildings	Few	—
To replace houses below a reasonable standard	—	26,000
To meet deficiencies arising from new industrial developments ..	1,000	5,000
Total	20,017	52,191

The Dean of York appeals for funds to preserve from demolition the Bedern Chapel, all that remains of a college for vicars founded in York by William of Lanum in the early part of the thirteenth century. The chapel is now in so dangerous a condition that the city authorities urge that it must either be repaired or taken down. There are no funds

available for its restoration, nor any one who can be held responsible. The building does not belong to the Dean and Chapter. It belongs to the Vicars-Choral (the Minor Canons of the Minster), who cannot afford to restore it. The chapel itself dates from 1548, and was founded by Thomas of Otley and William of Cottingham in the name of "The Holy Trinity, the Blessed Virgin, and St. Catherine." The absolutely necessary work could be done for £900. If this sum is forthcoming within the next few weeks the chapel can be saved and a relic of exceptional interest preserved; otherwise it must go. Subscriptions may be addressed to Lieut. Colonel G. F. Otley, Chamberlain of the Minster, 29, St. Mary's, York.

Lieut. Colonel Burton, chairman of the well-known firm of P. C. Burton and Co., Ltd., advertisers' service agents, General Buildings, Aldwych, London, W.C.2, and of Belfast, New York, Montreal, and Toronto, was recently demobilised. In course of a discussion with the managing director on general business matters shortly after his return, he expressed views on the all-important question of reconstruction which showed an angle of vision little thought of by the business man. Col. Burton has been persuaded to put his views on paper and a copy of his message is sent for our perusal. The spirit of wholesome optimism which permeates it, coming at a time when so many of us are getting a little anxious about the immediate future of this country, is helpful and inspiring. Many readers, we are sure, would like to have a copy, which will be sent free to any who will send for it to Messrs. P. C. Burton and Co. at the address mentioned above.

Lindisfarne Castle, which is advertised for sale, owes its origin to the naval policy of Henry VIII., or, rather, that of his great Minister, Cardinal Wolsey, and was an outcome of a general scheme of fortification for the coast and harbours. Originally a simple "block house," it was very early developed into a fine castellated building, and was so depicted by the artists of the seventeenth and eighteenth centuries. During that period, according to *Country Life*, it does not seem to have remained long in any single occupation, but was the home of various local notabilities in succession, the castle being Government property. Then it was handed over to the Coastguard, who left it in a state of dilapidation, from which it was rescued by its present owner, and Sir Edward Lutyens produced the fine country house which it now is.

Lecturing at the Royal Institute of Public Health on "General Principles of Housing in Relation to Health," Professor E. W. Hope, the medical officer of health for Liverpool, said that to do something to rectify the deficiency Liverpool Council had bought all the Army huts at Larkhill Camp, numbering 500, and were converting them into living houses for families. They were providing a living room, three bedrooms, and a scullery, and attending to the sanitation of the camp on modern principles. That was a direction in which something could be done elsewhere now that, under pressure, the Government departments were relaxing the rigid prohibition of wooden dwellings. There was no need, in his opinion, for this attitude towards wooden houses, because there were some in Liverpool in as good condition as when they were built thirty years ago. Where it was available, the use of wood might be extended both economically and from the point of view of comfort.

Sir Auckland Geddes, in a written reply to Mr. Lewis Haslam, says that he is willing that Government timber to build cottages under approved schemes which are big enough to take large supplies should be disposed of at the lowest possible figure not involving an actual loss through the Ministry of Munitions. Sir Auckland adds that he has had representations from timber merchants objecting to this suggestion, but in view of the urgent national importance of keeping down as far as possible the cost of houses for the working classes, he has felt justified in making the offer mentioned.

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AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

Fairford Church, Gloucestershire. New reredos and altar. Mr. Geoffrey Webb, Architect. From the Royal Academy, 1919.

Strand, W.C.2

War Memorial Cenotaph, Worcester Cathedral Grounds. Messrs. Henry Rowe and Sons, Architects.

Study of Draped Figures for Stained Glass. Designed and drawn by the late H. W. Lonsdale.

Working drawings of Messrs. Dickins and Jones' new premises now being erected in Regent Street. Front elevation. Messrs. Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. I. Tanner, A.R.I.B.A., Architects.

Currente Calamo.

We are, of course, glad that Dr. Addison, as he told the deputation that waited on him last week, is "prepared to scrap a lot" of the rules and regulations for housing schemes he has formulated in the past, if "he can get houses." That he would have to do so was long ago foreseen, and we are pleased that at last he has been wise enough to restore the encouragement of private enterprise, so long paralysed by the Government. But we seriously doubt whether his present good intentions do not pave the road to—well, a place where the houses may just as well burn at once as perish more or less slowly. First of all Dr. Addison would have nothing to do with architects, and not till most people had done little but laugh at his standardised plans, was it conceded that professional skill should be enlisted. Who is it now that is to be satisfied as regards the "good standard" of the houses to be built by the "many house builders" at last to be encouraged? Is the local authority to be the arbiter, and if so, when? Before the houses are built, or afterwards? If the plans are to be approved, who is to superintend their erection? Is the architect's certificate to be no longer necessary? If the architect is to be "scrapped," who is to protect the local authority against the quite possible abuses of the cost plus fixed charge system, in the absence of quantities? So far all these very vital considerations seem as nebulous as the "new world," the creation of which will doubtless date hereafter simultaneously from the days of Mr. Lloyd George and the discovery of that new theory of the universe, according to which, as some of our daily contemporaries seem happy to have found out, three yards of anything will be six if you look at the measurement another way! That theory was one with which the speculative builder of the mid-Victorian period was not unfamiliar, and may not impossibly console him in the near future if adopted when his work is measured up!

The Minister of Health announces that he has been conferring with the Building Resettlement Committee of the Joint Industrial Council of the Building Trades, and with representatives of associations of house builders, with a view to making

arrangements by which the erection of houses may be accelerated; and two agreements have been made for this purpose. The first agreement, made with the Resettlement Committee, provides "a special method"—the prime cost plus fixed charge system, we presume—by which, where conditions are satisfactory, an agreed price at which houses are to be erected shall be fixed between the local authority concerned, representatives of the local Federated Builders and the Housing Commissioner; and for the distribution of contracts accordingly among the local builders so that the largest possible number of houses at the agreed price may be erected immediately. The second agreement has been made with the representatives of associations of house builders, and provides for arrangements by which the house builder can agree with the local authority to erect houses and to sell the land and houses at an agreed price. Many house builders have not been accustomed to tender on bills of quantities. The Minister has agreed that the local authority and the builder may arrange that the houses to be erected shall be of a type or types which were built by the latter before the war, provided that these houses are of a good standard.

We are glad to find from his opening address that Sir John Purser Griffith, the president of the Institution of Civil Engineers, is in favour of Registration, and that in response to a test inquiry by the council recently it has been found that 97 per cent of the members are in favour of the Institution taking steps "to obtain statutory powers to prescribe the qualifications and to conduct examinations for admission to the profession of civil engineering, to keep a register of civil engineers, and to prevent persons who are not duly qualified from holding themselves out as members of that profession." That undoubtedly is a distinct direction to seek the necessary powers. We shall watch the proceedings with interest. Thirty-two years ago, when president of the Institution of Civil Engineers of Ireland, Sir John affirmed the necessity of Registration and referred to the attempt then being made by the Society of Architects to obtain it. "We should," he said, "gratefully hail a satisfactory solution of this difficult problem." If

the Institution of Civil Engineers essays it in earnest, and with the same business-like capacity and absence of cleavage, we are sure it will not take as long to talk about it as it has taken ourselves. Possibly our own representative institutions might, if the united action of civil engineers, architects and surveyors is impossible, at least determine that it shall be concurrent. In such case the Legislature could hardly delay or refuse the demanded recognition.

To Mr. Paul Waterhouse belongs the distinction of being probably the first architect in this country to make the air passage from London across the Channel on a client's behalf. These are still early days for such professional excursions, and, with a view to recording the event, Mr. Waterhouse was asked for brief particulars of the voyage. He replies in the current *Journal* of the Royal Institute of British Architects: "I expect there are other architects who have had occasion to fly on business, so I cannot attach much importance to an event which in any case will shortly become commonplace. But if you really wish to put on record the fact that architects, like other men of business or of art, can enjoy a professional journey overhead, the facts are these. A client wanted me to go to Paris in quick time during the strike, and asked me if I would oblige by taking 'the upper route.' I very naturally seized the opportunity, and went. Hounslow to Le Bourget took 2 hours 55 minutes. The journey (in a De Havilland 16 machine) exceeds for smoothness and tranquillity any locomotion I have ever experienced, though, of course, it is noisy, with a perpetual and rather restful noise. I made a half-inch scale section of the cabin en route. I also slept! My impressions of the voyage were, I suppose, the same as those of most 'first-fighters,' and need not be communicated. What struck me most were the sight of the Channel as looked down upon from 8,000 feet—a sight to which I can attach no adjective but 'poetic'—and the ancient majesty of France. Abbeville and Beauvais and the woods and fields between them were things not of to-day but of the Middle Ages."

A covenant to repair even in a dead lease, may cause trouble, although it does not come to life again in some won-

derful trick of conveyancing technicality. The recent curious case of "Cole v. Kelly" shows what risks may be run in taking on a tenancy created by letters, of premises held under a repairing lease which has expired. The defendant was lessee for a term that ran out at Christmas, 1917. Thereafter, by means of correspondence she entered upon a quarterly tenancy of the premises until September 29, 1918. Meanwhile the lessor had died, and her administrators demised their interest in the place to the plaintiff, who now sued the defendant for breach of the covenant to repair contained in the old lease, which ended in December, 1917. His claim to do this was based upon the defendant's letters as to her quarterly tenancy, and the fact that the dead lease did contain the covenant. It was agreed that the correspondence raised an implication that the defendant would be bound by the clause in the old and expired lease. But Mr. Justice Lush held that the letters creating the quarterly tenancy did not contain any implied covenant, and did not comply with the section of Conveyancing Act, 1881. He ruled that no covenant to repair was expressed or implied in the defendant's letter. So the plaintiff's action failed, and was dismissed with costs; but it seems to have been rather a near thing. Doubtless, the defendant, when taking on the quarterly tenancy after her lease ended, never thought of the old covenant as to repairs, and had no idea of making herself liable for repairs of these premises under her expired lease.

It is three years and a half since Lord Kitchener died, and although in the House of Commons in June, 1916, a resolution was passed, praying the Government to give directions for a national memorial to be erected at the public charge to the memory of Lord Kitchener, nothing has been done. Nothing indeed has been heard of the proposed monument, although, we believe, a site at the foot of St. James's Street opposite St. James's Palace has been considered. The matter has not been forgotten—it is "still under consideration." What is the reason for the delay? The monument to Lord Kitchener that is to be put up in a chapel in St. Paul's Cathedral is already far advanced in design. Mr. Ernest Cole, we believe, has been chosen as the sculptor. But the public monument seems likely to wait till somebody with sufficient influence reminds the Government to give effect to the resolution of the House of Commons.

Messrs. Geo. Cooney, Ltd., of Kells, are about to erect a very extensive garage, for which the plans have been prepared by Mr. H. J. Lyons, M.S.A., Waverley Avenue, Fair View, Dublin. The frontage is over 200 ft., and the depth of the new building will be 129 ft.

A new research laboratory is being erected at Thurndale, Drumcondra, at a cost of £9,000, for the Department of Agriculture and Technical Instruction. Professor W. A. Scott, A.R.I.B.A., M.S.A., A.R.H.A., 45, Mountjoy Square, Dublin, is the architect, and Messrs. H. C. McNally and Co., East Wall, are the contractors.

THREE GUARANTEES OF GOOD PROGRESS.

Amid all the embarrassments of the time it is a happy augury that a golden gleam of encouragement, tempered by reasonable caution, has pervaded the opening addresses of the three presidents of the three oldest representative institutions of the three great professions, the members of which are called upon by the exigencies of the transitional period we are passing through to do more towards re-establishing stability and genuine prosperity than all the politicians and the bad-mongers who are crying peace and plenty when there is little visible of either, or are pouring out their platitudes of pessimism as if universal suicide was the present paramount obligation of patriotism. We know from the appreciative testimony of many who heard him that Mr. J. W. Simpson's address at the R.I.B.A. last week has heartened many of his brethren who have listened for the past five years to little likely to comfort or reanimate them. We have ventured elsewhere to-day to record our obligations to the President of the Institution of Civil Engineers for his recognition of the fact that unity of organisation against the incursions of the quack and the charlatan is the one real protection—not merely of ourselves, but, which is of infinitely more national importance, of the public at large, than some of us have perceived while they have been talking about it for a generation. This week we are delighted to get the eminently practical address given by Mr. Andrew Young at the opening meeting of the session of the Surveyors' Institution on Monday last, throughout which a hopeful but soundly sane vein of suggestive counsel prevails, the genuine character of which is guaranteed by our own pleasant reminiscences of his ability and courtesy in the relations many of us have had with him in his official capacity as adviser and administrator of the bodies connected with the civic life of London.

No one can fail to perceive that while we as architects are principally responsible—or should be—for the greatest domestic social need of the moment, and for the making up for the general leeway in building of all kinds, the civil engineer has a probably still wider sphere of operations, not merely here at home, but wherever the ravages of war have wrought destruction; while the surveyor will be found indispensable in his private practice, and collectively as a member of the great organisation of which Mr. Andrew Young is the exponent, and not least so in regard to the cautionary advice he may feel bound to offer in regard to the postponement, modification, or even the abandonment of unsound and visionary schemes. Much will, of course, depend on the confidence of the public in his freedom from all prejudice and bias. Again, in the management and administration of large and small properties, even in past times of peace, the tact and resource of the surveyor has always been urgently needed and as beneficially displayed in the administration of new laws and ensuring their smooth working without injustice. In the days of rapid legislation that are coming, and in the great transfers of real property now proceeding, the demand for that tact and resource will be increased a hundredfold, and, little as many may think it, the wise and well-intentioned surveyor will do more to bring about the more generous sharing of the good things of this life by members of all classes and the elimination of class bitterness than many superficial observers may deem possible. One help in that task Mr. Young truly enough acknowledges. The

terrible but jointly endured experiences and privations in the trenches and on the battlefield during the past terrible years by squire and agent and labourer alike, and the marvellous readiness with which the great landlords have made personal and material sacrifices, are not forgotten, and no wholesale campaign against landlords is likely to obtain support if the situation is properly handled, and the general recognition by the landlords that the sustenance and real wealth of the country is—or should be—derivable from the soil, and that the readier acquiescence in such limitations as the exercise of the rights of ownership is rendered.

The Surveyors' Institution has long since won from Government its well-deserved reputation as an indispensable helper in connection with land legislation. Hasty law-making has usually led to costly litigation, unfair and oppressive and costly to all concerned. Much of that has been avoided when the Government has had recourse to the Surveyors' Institution for advice. We trust still more may be in regard to the waste and ineptitude of Government departments on which Mr. Andrew Young comments. It is little wonder, as he remarks, that we are justly outraged by the inordinate amount of red tape, the costliness of Government departments, and their lack of co-ordination, and loss of touch with the general trend of public feeling and experience. But we forget sometimes that the multiplicity of matters of late years in which the State has assumed more or less control has absolutely necessitated the increase of departmental control, and may probably do so more and more, and that the selection of incapable controllers, and the natural disgust of the public with their ineptitude, has doubtless deterred really able technically trained men from entering Government service. Mr. Young therefore urges surveyors to do so, and to keep in touch with the Institution throughout their official careers, and secure thereby good counsel in times of difficulty, and defence when unjustly blamed for failures due to no fault of theirs.

In regard to the domestic needs of the time, we agree with Mr. Young that the two great needs of the time are a closer relation between the Council and the Provincial Branches, and a closer relation between individual members and their executives. It is more than probable that these needs have grown with the huge increase of the Institution's membership, which now numbers about 5,000. But surely, as he suggests, something might be done by means of which all the members might make the acquaintance with at least one of the members of the Council. There is doubtless a large proportion of younger and rising men whose power of affecting the constitution or policy of the Council is small, and who at present can only mark or add names to the nomination papers they receive year by year. That dissatisfaction exists among such is natural. We know how a similar feeling led to cleavage amongst ourselves, and that, probably, only in the fuller recognition thereof can the "unity" we have all been talking about be restored. There has never been any split at the Surveyors' Institution, and there is not likely to be if, as Mr. Young tells us, the Council is as alive to the situation.

That his closing remarks with regard to the education of new candidates for the profession equally deserve attention few will deny. His tentative proposal that all candidates should be definitely associated with the Institution at least one year before they sit for their examination seems to us well worth consideration, and we entirely endorse his declaration that,

whether they register as students or not, something must be done for them. This, we hope, is likely to be borne in mind. Such a guide as he suggests, fulfilling some of the functions of the Dean at one of the colleges of our older Universities, who without attempting teaching would direct studies and watch progress would doubtless most usefully influence aspirants for membership, and in time would doubtless be able to advise the Council in deciding what further steps might beneficially improve the education of candidates.

Mr. Young's final brief note with reference to the necessity of every officer to be appointed under the Forestry Act passed last session being a trained surveyor, especially if in charge of large areas, is a very vital one. To make this possible he suggests that, as the Institution provides University scholarships, and forestry is certainly a subject the Council would be prepared to recognise, men wishing to qualify for positions under the new Forestry Authority would do well to enter for these scholarships.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended November 1 was 288, bringing the total number of schemes submitted by Local Authorities and Public Utility Societies to 5,919, comprising about 48,500 acres. The total number of schemes approved is 2,164, comprising about 23,000 acres.

House-plan schemes representing 3,223 houses were submitted, and schemes representing 2,140 houses were approved, during the week. The total number of houses represented in the house-plan schemes now submitted is 46,758, and in the schemes approved, 31,101.

Applications were received during the week from twelve Local Authorities who propose to convert temporary war-service structures into dwellings for the working classes. Altogether 50 Local Authorities have made application for huts or other structures. In the case of a few applications, the number of huts, etc., required has not been stated. Apart from these, the applications relate to a total of 1,661 huts, in addition to a few other structures.

The Standardisation and Construction Committee appointed by Dr. Addison have approved further special methods and materials of construction. These include various forms of concrete blocks or concrete brick. Details for the information of Local Authorities and others will be given in the next number of "Housing," issued by the Housing Department of the Ministry.

Fifty houses are to be erected at Mold, Flintshire, at a cost of £40,000, and the education authority proposes to build a new school there at a cost of £30,000.

Seaton Delaval Coal Company, Northumberland, is building for its workmen self-contained houses fitted with baths and provided with gardens front and back in blocks of four, and twelve to the acre.

The General Committee of the Shakespeare Memorial Theatre have decided to devote their attention for the present to promoting a company to play Shakespeare in all parts of the country rather than to build a Memorial Theatre in Bloomsbury.

A suggestion that a rationing system for houses should be instituted is made by the medical officer of health for East Dereham, Norfolk, in a report on housing accommodation. "While 104 bedrooms in the town were overcrowded, he stated, there were 112 bedrooms unoccupied in other houses.

The death of Mr. Thomas Boynton, F.S.A., of Norman House, Bridlington, a well-known antiquary and collector, is announced. Born in 1832, he was occupied until 1869 in agriculture, and discovered on his farm at Urome, in Holderness, the remains of an early lake dwelling. His collection of lake dwelling finds is already in the British Museum, to which he presented other objects of interest.

Our Illustrations.

NEW PREMISES, REGENT STREET, FOR MESSRS. DICKINS AND JONES.

We commence to-day a series of working drawings of the new buildings which are being erected on an island site bounded by Regent Street, Argyll Place, Argyll Street, and Little Argyll Street. They consist of two basements and five floors above. The elevations are of Portland stone and the structure is steel-framed. The shop-fronts have bronze frames, and windows have steel casements. The cube content is large, and the building has been divided into three portions connected by large openings protected by double rolling shutters, and the staircases are cut off by lobbies with double fire-resisting doors. The joinery and fittings will be generally of mahogany. There are to be five passenger lifts and two goods lifts, and these will be repeated in the northern part. Ventilation and warming are provided for by fans both for forcing in the fresh air, warmed when required, and for extracting the vitiated air. There will be a complete sprinkler installation, also vacuum cleaning apparatus, parcel chute, transporter, and revolving table for parcel purposes. The two lower floors will be used for packing and storage, the ground, first, and second floors as showrooms, third floor for offices and workrooms, and the upper floor for a restaurant, with kitchen, sewing-rooms and purposes connected therewith. The architects are Messrs. Sir Henry Tanner C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A., of Regent Street. The builders are Messrs. Higgs and Hill, Limited.

THE LADY-CHAPEL ALTAR AND REREDOS, FAIRFORD CHURCH, GLOUCESTERSHIRE.

The design of the altar and reredos, given by Earl Beauchamp, through the Warham Guild, provides for a small altar 5 ft. long, the length being limited by the tomb on the north side. The sill of the window above it is over 10½ ft. from the floor owing to the original 15th Century vestry behind it. To avoid dwarfing so small an altar a low reredos is used, surmounted by a tabernacle with folded doors. The framing is of oak coloured and gilded, and the figures of white English alabaster, uncoloured except for a few touches on the linings of the outer robes, and gold borders. The damask hanging above is of blue silk to match the blue of the late 15th Century glass above it. The lining of the doors of the upper tabernacle are black and gold. The photographs reproduced were exhibited at the Royal Academy by the architect, Mr. Geoffrey Webb, for the Warham Guild.

WAR MEMORIAL CENOTAPH, WORCESTER CATHEDRAL GROUNDS.

This structure is 25 ft. high, and it is represented by a photograph in the Royal Academy War Memorial Exhibition. Messrs. Rowe and Son, of Worcester, made the design, the senior member of the firm being surveyor to the Dean and Chapter of the Cathedral. Mr. John Stokes, of the city, was the builder. The work was completed in eleven days, including the architects' design. It was carried out for the occasion of the County Peace Parade on August 23. It is constructed of light timber frame-work, covered with asbestos slabs left in their natural colour, and the site is on the north side of the church, which is not a good aspect for a permanent monument. As

this is a temporary erection that objection is of little moment. There is to be a competition for the cathedral war memorial not yet decided on.

STUDY OF DRAPED FIGURES FOR STAINED GLASS.

Reproductions of drawings and photographs of typical decorative work by the late H. W. Lonsdale appeared in our issues of October 31 and November 6. To-day we give another plate illustrating two examples of draperies shown by a detailed preliminary study for stained glass. At an early date we shall show specimens of this artist's finished cartoons as carried into execution for church windows in the West of England, as well as mural decorations at Cardiff Castle for the Marquis of Bute.

THE LAW OF CHECKWEIGHING.

The law of Checkweighing, as affected under the new Act of 1919, has a much wider range than many readers may suppose, especially in regard to the loading and unloading goods into and from vessels, and busy men among our own producers and merchants will thank Mr. J. H. Cockburn, the well-known author of "The Law of Coal, Coal Mining and the Coal Trade," and of "The Law of Private Railway Sidings and Private Traders' Traffic," for his extremely useful handbook, just published by Messrs. Stevens and Son, Ltd., 119 and 120, Chancery Lane, at 7s. It will doubtless be interpreted in the light of decisions on the provisions of the Coal Mines Act, which it incorporates, and Mr. Cockburn has collected all the past cases, with copious references, a full index, and some extracts from Reports of Departmental Committees.

The first section deals with checkweighing at mines of coal, stratified ironstone, shale, and fireclay; the second with other industries, including chalk, cement, and lime. It may be noted that there is nothing in the Act declaring that substances within its scope shall be weighed; it simply gives the workman the right to check the weighing of the material on those occasions when it is weighed. But other provisions are more imperative. For instance, where wages paid to workmen engaged in the manufacture of cement are adjusted from time to time on taking stock, the employer shall take stock at intervals of not less than six months. Again, while the Act applies to workmen engaged in the "getting" of chalk or limestone from quarries, apparently it does not apply to men employed in loading the gotten chalk or limestone into wagons, or breaking or crushing it, apart from manufacturing it into lime or cement; but uncallowers, or men employed in screening the top soil from chalk or limestone quarries preparatory to quarrying, are "workmen engaged in getting chalk or limestone."

Other important points are similarly analysed by Mr. Cockburn, which those affected thereby will do well to consider, and they will find no more valuable guide than this well-compiled handbook.

Prince Henry's room, at 17, Fleet Street, is to be reopened to the public. A recommendation to this effect is being made to the London County Council.

About £1,300 has been subscribed to build a memorial chapel in the church of St. John the Divine, Kennington, in memory of the late vicar, Canon Deedes. About £600 remains to be collected. It is hoped to finish the memorial before next Easter.

To the memory of Canon Ball, the founder and first vicar of All Saints' Church, Peterborough, a stained glass window was dedicated therein on Sunday week. The window, which is immediately over the altar at the east end, is by Mr. Victor Milner, of Haverstock Hill, London. In the central light is the figure of the Blessed Virgin and Divine Infant, Archangels, and St. Joseph and St. Luke. The other figures are St. John the Baptist, King David, St. George, St. Margaret of Scotland, St. Anselm, Joan of Arc, and Bishop King of Lincoln.

THE SURVEYORS' INSTITUTION.

PRESIDENT'S ADDRESS.

The opening address of the session of the Surveyors' Institution was given by Mr. Andrew Young, the president, at the ordinary general meeting on Monday last.

After a few graceful introductory words of thanks for his election as president, and a tribute to the honourable traditions of the profession, Mr. Young said:—

In my early career I had the good fortune to meet with many of the older members—men of the previous generation to mine, and amongst them several of our founders. I have good reason to remember how speedily I was attracted to them by their charm of manner and the way in which they "played the game." In my later career, and during the last few years, when I have been able to devote more of my time to the activities of this Institution, I have realised with what great faithfulness these ideals have been maintained and to what an extent they permeate the whole profession. I feel sure, therefore, that I can go forward in my year of office with every confidence that in all my efforts I shall have your loyal support, and that any shortcomings will meet with the most generous toleration.

HIS OWN CAREER.

My articles, which I served in the office of an architect and surveyor, I completed in the year 1868, the year that the Institution was founded. In 1872 I entered the service of the School Board for London as their surveyor. During my service with the Board I was permitted to engage in private practice. In 1889 I was appointed valuer to the London County Council, which office I continued to hold until five years ago, so that practically during the whole of my professional career I have served in an official capacity bodies concerned with the civic affairs of London. I believe I am the first to occupy this chair with such a record. Throughout my career I had to look at matters from perhaps a rather different view point than the majority of surveyors. My official career, moreover, has coincided with the years of London's most active development. The temptation, therefore, to devote my address to reminiscences is a very strong one, but there are other matters which have stronger claims.

By a strange trick of chance it fell to Sir John Oakley, the youngest president of the Institution, in his presidential address, to review the progress which this Institution has made during its first fifty years, while to me, one of the oldest presidents, has fallen the duty of attempting to gauge the needs of the future.

Like Sir John I am relieved of the necessity of looking for a subject for my address. The subject is to hand. It follows naturally upon that which Sir John selected for his address. He, speaking in the fiftieth year of our Institution, reviewed the progress which our Institution had made, and it is only natural that I, speaking at the threshold of the second half of our first century, should look forward and endeavour to take stock of the equipment with which we enter upon this new time cycle. I could more accurately describe it as a new era, for although the division of time into centuries and half-centuries is purely arbitrary, it happens that the closing years of our first half-century have coincided with a world catastrophe. To-day, as we peer into the future, we are conscious that the world has changed, old landmarks are removed, and of such as remain no one can say how many will disappear to-morrow. We do not know how many of the old roads are negotiable or where or how the new roads should best be built.

The minds of all being preoccupied by thoughts of reconstruction, I should do wrong if I selected any other theme for my opening address. Probably we surveyors are the best able to judge the enormity of the task which lies before us and the great difficulties with which we shall have to contend.

THE NEW WORLD AND ITS PROSPECTS.

There are optimists amongst us who speak blithely of the new world that we are about to build. Personally I share their optimism, but it would be folly to enter upon the work without realising the great difficulties to be

faced. There is a feeling abroad that in some extraordinary way the war has rendered this building of a new world possible, and this finds apparent support in the existing economic situation. It is true that the war is the occasion of the demand for reconstruction, and, in a sense, by breaking down old prejudices and awakening a new national spirit has removed obstacles that in 1914 appeared insuperable. The conclusion of peace, however, finds us with terribly depleted material resources, and however great may be our ambitions, our schemes must be made to accord with our resources or they will lead to bankruptcy and to conditions far worse than those we seek to ameliorate. I feel sure that this is a commonplace with the vast majority of the members of the Institution, and I mention it only because I fear that this lighthearted spirit may prove not the least of the difficulties with which we shall have to contend, and it is a matter with which we as surveyors are intimately concerned. Individually in our private practices, and collectively as an Institution, we shall be called upon to give advice which may lead to the modification, postponement, or even abandonment of schemes. It is not an easy matter to give adverse decisions upon schemes for which there is a considerable popular demand. None the less it may be necessary to give them, and the spirit in which they are received will depend upon the extent to which we can command the confidence and trust of the general public. The keynote of success in the difficult period upon which we are entering will be mutual goodwill, and the influence of our Institution—which we hope and expect will be very great—will depend upon the extent to which we as a profession are able to retain the confidence of the public in our freedom from all prejudice and bias. This is a matter which rests largely in the hands of individual members, and in view of the greatness of the issues I shall perhaps be forgiven for urging the importance of avoiding the appearance of associating our profession with any particular school of political thought. Our profession embraces men of all shades of political opinions, and in the objects of the Institution so wisely laid down by our founders we have a programme upon which we can all unite. To confuse our objects with any political issues will lead to dissension and destroy our corporate spirit. The extent of our solidarity alone will fix the limits of the usefulness of our Institution and profession to the country in the great task of reconstruction which lies before her.

It will be a long time before it will be possible to estimate the magnitude of that task—the nature of the edifice is hidden from us. It has yet to be worked out from the conflicting ideals and ambitions that disturb the world at present. All we know is that the world is rebuilding, and the United Kingdom must take her part or fall behind and surrender her proud position amongst the nations. The need is great and urgent, and upon us surveyors will fall a large share of the responsibility of seeing that it is wisely and faithfully met.

THE RESPONSIBILITIES OF THE SURVEYOR.

To realise how great are the responsibilities which we, as a profession, have to shoulder, we have only to consider for a moment how many and diverse are the nation's vital interests which rest in our care. There is no profession, not even excepting the noble profession of medicine, that is so intimately concerned with the physical well-being and prosperity of the people of these islands as ours. Mr. Turville Brown in the paper he read before this Institution some three or four years ago called attention to the fact that the word "surveyor" was derived from an old French word meaning "overseer," "one who has charge of land and works." A very large proportion of the work of reconstruction will of necessity be directed towards the better utilisation and administration of the country's lands and the development of its natural resources. These are matters with which we are peculiarly concerned. As land agents we shall have to take our part in the national effort to maintain and increase the production of food, timber, and the raw materials of industry. The

problems of rural depopulation and the improvement of the conditions of life in rural districts and villages are problems with which we are intimately concerned. As surveyors and valuers our services will be required in the reconstruction and extension of our towns, the improvement of housing conditions, the planning of new roads, sanitation, and the provision of adequate accommodation for our expanding industries. We shall have great opportunities of seeing that this work is all well and wisely carried out, so that succeeding generations will be relieved of the menace to health and public welfare with which we have now to contend in our big slum areas.

As mining surveyors we shall have our part to play in the development of the mineral resources of the country and in improving the conditions under which our miners and quarrymen work and live.

As administrators of large and small estates there has always been a demand upon our tact and resource in overcoming difficulties which so often arise in connection with the application of new legislation. This is one aspect of our work which brings out its peculiarly national character. We are in effect the administrators of many of the country's laws, and it lies in our power to ensure their smooth working without injustice. This is a point which no doubt our founders had in mind when they made public welfare the keynote of the stated objects of the Institution. In the period of rapid legislation which lies before us the demand upon our tact and resource in this respect will be many times increased.

Finally, in so far as we are employers of labour, we shall be able to add our quota towards the spiritual reconstruction which comprises a more generous sharing of the good things of this life amongst all classes and the elimination of class bitterness.

THE PROUD RECORD OF MEMBERS' PUBLIC SERVICE DURING THE WAR.

As a profession we have a proud record of public service in the terrible war to point to. Out of a membership of about 5,000 over one-third joined the naval and military forces, and of these more than ten per cent. made the great sacrifice. This appears more wonderful when we consider how great a proportion of our work is work of national importance, from which men could ill be spared. In addition to this a very large proportion of those who did not join the combatant forces were engaged upon special non-combatant duties throughout the war. This record should at least convince the public of the devotion of our profession to the national cause if ever there were any doubts on that score—which I do not believe.

Another favourable factor in the situation I have referred to already, namely, the breaking down of some of the old prejudices and the softening of the bitterness which was associated with all questions relating to land before the war. We hope we have turned our backs on those old quarrels. It is only necessary for me to refer to them to bring out the change which has taken place. During the past terrible years, while hall and cottage mourned together, and while squire, agent, and labourer shared the same awful experiences and privations in the trenches in France, and vied with one another in acts of courage, a new understanding has grown up. After the wonderful exhibition of readiness for personal and material sacrifice which our great landlords have shown, a wholesale campaign against landlords as a class is not likely to receive general support if the present situation is handled properly. On the other hand, I think I shall not be going too far in saying that there is a more general recognition on the part of landowners of the fact that ultimately the sustenance and wealth of the country is derived from its soil, and a readier acquiescence in such limitations upon the exercise of the rights of ownership as the national welfare may demand. To take one instance alone—the lack of any real opposition to the Rent Restriction Acts, inflicting real hardship on many land and property-owners as they do, is sufficient illustration of this.

THE PERILS OF HASTY LEGISLATION.

This brings me to the consideration of one characteristic of the period which lies im-

mediately before us which will constitute one of its biggest difficulties. It will be a period of hasty legislation. Quite apart from the emergency legislation for necessary reconstruction work, legislation is necessary to meet the situation which the new conceptions have created and to consolidate many of the laws relating to landed property with a view to the removal of anomalies which have arisen in recent years. The legislation, moreover, will be of a highly technical character. It is to be hoped that the Legislature will make full use of the machinery and resources of our Institution when conducting the necessary inquiries preliminary to the drafting of their measures, in their actual drafting, and while they are before Parliament. As a profession we have all the knowledge and experience of matters concerning land, and in the organisation of our Institution the necessary machinery for rapidly collecting any information that may be required.

One of the most encouraging signs of recent years has been the increasing readiness with which the Government has shown its recognition of the Institution in connection with its dealing with landed property. I shall have something more to say about this later on, but the point I wish to make here is that in the best of circumstances legislation of this kind passed through Parliament in its present congested state cannot be expected to escape some of those defects which are generally associated with hasty legislation. Thus surveyors, land agents, and others are likely to have fresh perplexities added to those which naturally arise in times of change; there will be doubts as to the intention of this and that clause, or as to the best course of procedure in relation to this or that enactment. If we are to wait while cases are being decided in the Courts, as may frequently be necessary, the work will often be brought to a standstill. One of the prime functions of this Institution is to meet such situations. It was founded to provide the opportunity for free discussion of matters relating to our profession by all the members of that profession, and I would urge upon members, especially at this time, the importance of taking part in all the Institution meetings, or, at any rate, giving them their support by attending; and, if I may be allowed to do so, I would urge upon the executives of the Provincial Branches the importance of providing fuller facilities for meeting and discussing such problems as may from time to time arise. The extent to which a number of isolated individual surveyors can affect the country's land policy is of necessity small, but the effect of the whole profession united in the membership of this Institution, thrashing out problems together as they arise, and keeping abreast of all new developments, is incalculable. I feel that if the Institution is to reach the full measure of its power and usefulness it cannot rest content with the criticism of measures and reforms which may be thrust upon it by the necessities of the times or the pressure of public opinion, but must be prepared to take an increasingly active line in the initiation of proposals that will lead to the better utilisation and administration of our lands.

Civilisation is once again rapidly on the move. We are all united in dissatisfaction with much of the old position, the degeneracy of which was revealed in the lurid light of the recent world conflagration. There is no lack of would-be guides to point out the roads we should follow. Many of these we know will lead to disaster, and we oppose them; but, unless from our knowledge we are prepared to indicate other and better roads, our opposition will, most untruly, be construed as an indication of our unwillingness to move at all.

There are those amongst us who feel that we have not to move very far from the old position to secure the condition desired; there are others, on the other hand, who feel that we must retrace our steps a long way to seek them. Probably there are upholders of both these extreme points of view amongst the members of our profession, but the vast majority, recognising the need for far-reaching changes, are only anxious that they shall be purposeful changes, undertaken with full knowledge of the facts and not blind leaps in

the dark. We have the knowledge and can give the guidance, and, this being so, I think we should be failing in our duty if we are too diffident about tendering advice. I am not proposing that we should engage in active political propaganda, but I do suggest that with our knowledge and experience, by timely representations and the laying of well-considered constructive proposals before the departments concerned, we shall be doing the country a great service.

WASTE AND INEPTITUDE OF GOVERNMENT DEPARTMENTS.

Another mark of the time will be the increasing interest of Government departments in our work. I have avoided the use of the words "interference" or "control," because these words have certain connotations which would make me appear to condemn what to my mind is one of the necessary developments of our time. Our attitude to Government departments presents a strange paradox. On the one hand there is hardly a measure of reform which has gained any considerable acceptance which does not entail increased official interference, while on the other hand we are apt to be outraged when by personal contact with departments we are brought to realise that the reform has been purchased at the cost of a certain amount of independence. We are justly outraged by the inordinate amount of red tape and the costliness of Government departments and exasperated by the lack of co-ordination and their loss of touch with the general trend of public feeling and practical experience. Our attitude, however, is not altogether logical. We are agreed that increased departmental control is necessary, or, perhaps, I should put it in another way and say that we are agreed as to the necessity of certain reforms which sooner or later involve departmental control. On the other hand, we are too apt to assume that everyone in the Government employ suffers from the defects that are too common in Government departments. Doubtless this attitude acts as a deterrent upon many good men with practical experience who would otherwise be willing to enter Government service, thus tending to close one of the avenues of escape from the existing unsatisfactory state of affairs.

It is to be hoped that the present outcry against the waste and ineptitude of Government departments will lead to substantial reforms and to the recognition of the importance of recruiting technically trained men with practical experience for the technical staff. At the same time, we should do all in our power to encourage members of our profession to enter the Government service and keep in touch with the Institution throughout their official careers. This will ensure the close contact between the administrative officers and practical affairs that is so essential. The machinery of government has become too complex to maintain that contact between administrative departments and practical experience or public opinion through parliamentary channels alone. The Reconstruction Committee which sat upon the subject of the machinery of government recognised this difficulty, and in their report recommended an extension of the system of advisory councils as a remedy. The Committee laid considerable emphasis upon this recommendation, urging that the value of the assistance which may be rendered by such outside expert advisory bodies has been repeatedly attested in recent years. They claimed for them the double advantage of acquainting the public with the difficulties with which departments have to contend, and of keeping the departments informed of the trend of public opinion with regard to the matters with which those departments deal. The recommendation appeals to me as a thoroughly sound and practicable one. It is to be hoped that it will be extensively adopted by departments dealing with those matters with which we are more particularly concerned. Members of this Institution should always be ready and willing to serve upon these councils and to have all the resources of this Institution behind them.

(To be continued.)

THE ROYAL ARCHITECTURAL INSTITUTE OF CANADA.

At the twelfth general annual assembly of the Royal Architectural Institute of Canada, held in Toronto, October 2, 3, and 4, the following officers were elected for the ensuing season:—President, A. Frank Wickson, Toronto; vice-president, David R. Brown, of Montreal, and L. H. Jordan, of Winnipeg; honorary secretary, Alcide Chausse, Montreal; honorary treasurer, C. S. Cobb, Toronto.

It was decided to hold the next annual assembly at Ottawa.

Among the items on the programme was an address by Mr. Naulon Cauchon, consulting engineer and town planner, Ottawa, on "Architectural Scope in Town Planning," who said architects and engineers should educate the public to what is right and proper in architecture. They should get very much closer together.

Mr. Thomas Adams, town planning adviser to the Commission of Conservation, said that up to the present the architects had had very little scope as far as workmen's dwellings were concerned, but by the introduction of the Government's housing schemes, architects were being established in the work. He believed they were beginning to realise the necessity of their taking a more active part in community problems, and the American Institute of Architects, at least, have shown that they were beginning to appreciate the fact that they must do something towards the socialisation of the profession.

Mr. James Govan, Ontario Government architect, said the Government did not feel that the architectural profession had taken the interest in this question that it should, though, at the same time, they could not have carried on had it not been for the splendid help some members had given to the local commissions. In the administration of the Ontario Housing Act they had found that the general opinion was that the employment of an architect was not only useless but actually a hindrance. This misapprehension must be removed. The architects must take an interest in this thing from a social standpoint, and must demonstrate to the public what they can do. If the housing work generally had been left in the hands of incompetent men, those who were competent had only themselves to blame.

The amount of co-operation the architectural profession could give in housing work, Mr. Govan said, would be affected to a great extent by the amount of money they expected to make out of it. If the local architects looked to receive 7 per cent. from local commissions on housing, they would not be consulted very much. He did not know what commission should be charged, because the work was so different from what the average man meets with. If one took half a dozen types of houses for a scheme, they could be twisted around to meet various conditions and the drafting work could in this way be considerably reduced.

One message he wanted to leave with them, said the speaker in closing, "that while the Government has been playing a somewhat lone hand up to the present, it wanted the co-operation of the architectural profession."

Mr. Giles Gilbert Scott, A.R.A., the architect of Liverpool Cathedral, and the son of Mr. George Gilbert Scott is decorating the side chapel in the church of All Hallows', Southwark.

The building of the war memorial chapel at the parish church, Grimsby, is about to begin. The lowest tender was that of Messrs. Woodbridge and Simpson, of Oxford, which has been accepted by the committee. The cost is nearly double what was anticipated even a year ago, and the committee find they need £3,000 more than they have yet had given or promised.

Dr. Addison, "by arrangement with the Chancellor of the Exchequer and with the Prime Minister's approval," is now to be the Minister responsible for the whole administration of the Department of the Registrar-General of Births, Deaths, and Marriages, including the administration of the census. To facilitate the carrying into effect of the altered constitutional position created, the Minister has appointed Mr. S. P. Vivian, an Assistant Secretary in the Ministry, to be Deputy-Registrar-General of Births, Deaths, and Marriages.

SOME ESSENTIALS OF DESIGN FOR REINFORCED CONCRETE APARTMENT BUILDINGS.

Excellent opportunity is afforded in the planning, designing, and general arrangements of the new type of building known as "apartment hotel" for the architect and engineer to combine their ingenuity. An essential of such a structure is that it must meet the requirements of small families desiring many of the numerous accommodations afforded by the modern hotel and desired in the up-to-date detached home. Some essentials of design for buildings of this type are described as follows, by Henry J. Schlackson, in "Concrete in Architecture and Building."

Generally, the residence unit consists of a living room which, because of the in a door bed, is also the bedroom; a buffet, which is a combination of dining room and kitchen; a bath and dressing room; and last, but not by any means least, three closets. Sometimes there are provided exclusive sleeping quarters as well as a sun porch, but in most cases there is the possibility of simple repetition of the unit—the same plan for each apartment—so that the structural divisions can be standardised. The same argument applies to hotel planning, which is practically the apartment hotel on similar lines.

The architect and engineer should combine their efforts upon completion of the preliminary sketches. In hardly any case do the plans require anything which may not be harmonised to structural simplification. Only for elevator and stair framing need the standard of panels be varied. Columns should be the same size from basement to attic, and while it is true that this takes more concrete, the resulting saving in labour more than offsets the cost of the extra concrete. Imagine, for example, in addition to the saving in changes in form sizes for girders, columns and other members, the saving of endless calculations to maintain room sizes, pipe risers, and other necessary features, all of which are obviated when the fixed structural points are constant. These fundamentals have important bearing on reinforced concrete construction applied to this class of building. Everywhere, after the forms are in place, it is possible to run pipes irrespective of the members they penetrate. After the forms are in place, all mechanical trades can install equipment to be cast in place with the casting of the floors, leaving no openings from floor to floor and resulting in one concrete mass—fireproof, waterproof, and verminproof.

Three forms of floor are in general use: Flat slab, tile in concrete joist, and open form. The last is no doubt winning preference as it develops opportunity for, ingenious form centering, tending to make it of lower cost by comparison with other types. The open form reduces weight and hence price, other things being equal. Probably the day is not far distant when we will have the fabricated column, in sections two or three feet high, delivered at the building, thus simplifying form construction and presenting considerable saving of time and form supports, because such columns would be able at once to take the load and save the time which form supports must now be left in place.

As the apartment hotel type of building becomes more and more a factor in the building world, there is certain to develop co-operation among the producers who specialise in it. Certain established standards of sizes are bound to prevail—for example, one size of windows, except for bathrooms, a standard size for doors, all of which will make for much less confusion in the innumerable accessories related to such features. In the case of windows, imagine the effect of one size instead of five on the location of perhaps 1,000 which must be provided, each involving glass, sills, weights, frame, sash, trim, shades, screens, awnings, etc. The same is true of structural members and goes to show that one common size for common members will effect considerable saving of time, labour, and material, as well as reduce confusion in construction details in many parts of the building.

My motto with reference to the structural design of this type of building is to change everything, if you will, but the uniformity of columns, girders and panel sizes. For girders maintain a standard width and depth and make the changes in the amount of steel. Only after much experience can one realise the saving thus effected. For girder depths regulate the height of partitions and change in grounds.

This is an architect's observation of concrete construction as applied to this type of building and while it seems to treat rather of the architectural elements of such a building, my purpose is to bring out the indisputable fact that the entire concrete problem is an engineering one, that the engineer must design and assume responsibility for the integrity of the structural design, and as the above is a fact, the plan of the building must be an outgrowth of the requirements of the engineering design, based upon the merging of modern building architecture and engineering.

L.C.C.'S HOUSING PLANS.

The London County Council on Tuesday approved an estimate for the purchase of about 250 acres of land at Bellingham, in the metropolitan borough of Lewisham, for mixed development as a housing estate. The land is intersected by Southend Lane, along which the Council's tramways are laid, and there are three railway stations near or adjoining the estate. The sum of £180,000 is voted for buying and laying out the first section.

As contractors for the erection of ninety-one cottages on the Council's Old Oak estate, Hammersmith, had withdrawn their offer, it was arranged that the cottages should be built on the basis of the actual cost of labour and materials, together with lump sums amounting to, £5,500—for use of plant and profit.

The General Purposes Committee recommended that in the present housing shortage the Council should declare that proposals to pull down dwelling-houses fit to be inhabited so as to erect on their sites a place of amusement were contrary to public policy. The Chairman of the Housing Committee, Mr. Bernard Holland, said it appeared to him that there was a strong case for control in cases of demolition generally.

On a motion proposed by Mr. Marsh, and seconded by Mr. A. A. Watts, that the recommendation be referred back so that the question of control might be considered, Mr. G. H. Hume said he thought the Committee should get into touch with other committees and consider the whole problem, to see if something really effective could not be done, and the clause was taken back to that end.

Nuneaton is about to spend £100,000 on laying a 14-mile main pipe for a further water supply from the Leicester Corporation.

The Burgess Hill U.D.C. has decided on a scheme for fourteen houses, and to appoint Messrs. Denman and Matthews, of 27, Queen's Road, Brighton, as architects.

Birmingham University have appointed Dr. John Robertson, C.M.G., O.B.E., Medical Officer of Health for Birmingham, as Professor of Hygiene and Public Health.

At the Incorporated Institute of British Decorators, at Painters' Hall, Little Trinity Lane, on Tuesday, November 18, 1919, a paper will be read by Mr. H. K. Prosser. Subject: "Discord and Harmony of Colour in Decoration." The chair will be taken at 7.30 p.m.

The Assistant City Solicitor, and Mr. Martin Saunders, district surveyor, complained to the Lord Mayor last Friday that a building in Garbek Hill was dangerous to its inmates, and applied for an order for their removal under the London Building Act, 1894. The Lord Mayor made an order as requested.

The Trustees of the National Art Gallery of New South Wales have appointed, with a view to the acquisition of modern works of art, a committee consisting of Mr. Frank Brangwyn, R.A., Mr. John Burns, Sir George Frampton, R.A., and Mr. John Longstaff. The secretary is Mr. F. Graham Lloyd, of Fleet House, 58, Fleet Street, E.C.4.

Correspondence.

SANCTUARY BUILDINGS, 8-10, GREAT SMITH STREET, WESTMINSTER, S.W.

To the Editor of THE BUILDING NEWS.

SIR,—My attention has been called to a paragraph in your issue of August 27, under the above heading, and to the illustration to which it refers.

As the architect of Block No. 2 I feel compelled, in justice to myself, to write to you and state:—

(1) That Block 2 is not being erected to the elevation depicted in your illustration.

(2) That it is being erected to plans, elevations, and drawings originated and prepared by myself, and not by Major Pawley.

(3) That H.M.O. Works have not been concerned, except in satisfying themselves as to the interior accommodation.—Yours faithfully,

H. J. ABRAMS.

19, Buckingham Street, Strand, London, W.C., November 4, 1919.

CHALK COTTAGES.

SIR,—The account given in your issue of August 13 of the construction of a group of three chalk cottages at Hursley, near Winchester, on Sir George Cooper's estate, provides very interesting reading.

Although the report states that this method of construction is a return to the means employed in the Middle Ages, we do not think it is necessary to go so far back as that. We believe that the practice has continued and is extant, even to this day, in some of the remote districts in Scotland.

We note that the foundations were of brick, built on concrete, and that an impervious dampcourse was laid on the top course of the bricks before the chalk and straw construction was commenced; also that the exterior walls were finished with a thin coat of thin cement mortar rendered on to ordinary wire netting pegged down to the chalk.

These precautions to exclude the damp are very necessary, for chalk is a very porous material.

The Board of Agriculture and Fisheries are conducting experiments with "pisé de terre." This type of construction is precisely similar to that now under notice, except that pressed earth is substituted for the chalk.

Our product is being used to waterproof the cement covering the walls, and we have no doubt that in this application it will be entirely successful. The nature of waterproofed cement also renders it eminently suitable for dampcourses, for it is easy to apply, and does not necessitate the employment of skilled labour.

As proof of the remarkable waterproofing properties of "Pudlo," we should like to describe an experiment which was recently carried out with some thin porous coke breeze concrete blocks, to which a quarter inch facing of "Pudloed" cement had been applied during the process of manufacture.

The blocks were constructed on a machine called the "Dri-crete," which is made by Mr. B. F. Hartley, Lode, Cambridge. Five of these blocks were cemented together to form a tank, the waterproof face being inside and the joints also made with waterproofed cement. The tank was then filled with water, and although it remained filled for a very long period of time, the only loss of water was due to evaporation, and the outside of the tank was perfectly dry.

We propose exhibiting this tank on our stand at the forthcoming Public Works Exhibition, to be held at the Agricultural Hall, Islington, from November 20 to 27, and should be pleased to show this to any of your readers who are sufficiently interested.—Yours faithfully,

KERNER-GREENWOOD AND CO., LTD.

King's Lynn.

At a general meeting of the Royal Institute of Oil Painters, Piccadilly, last Monday, Mr. Julius Olson, A.R.A., was elected president in the place of Mr. Frank Walton, who retired from the office after twenty-one years' service. Mr. W. B. E. Ranken was elected vice-president, and Mr. Terriek Williams hon. treasurer.



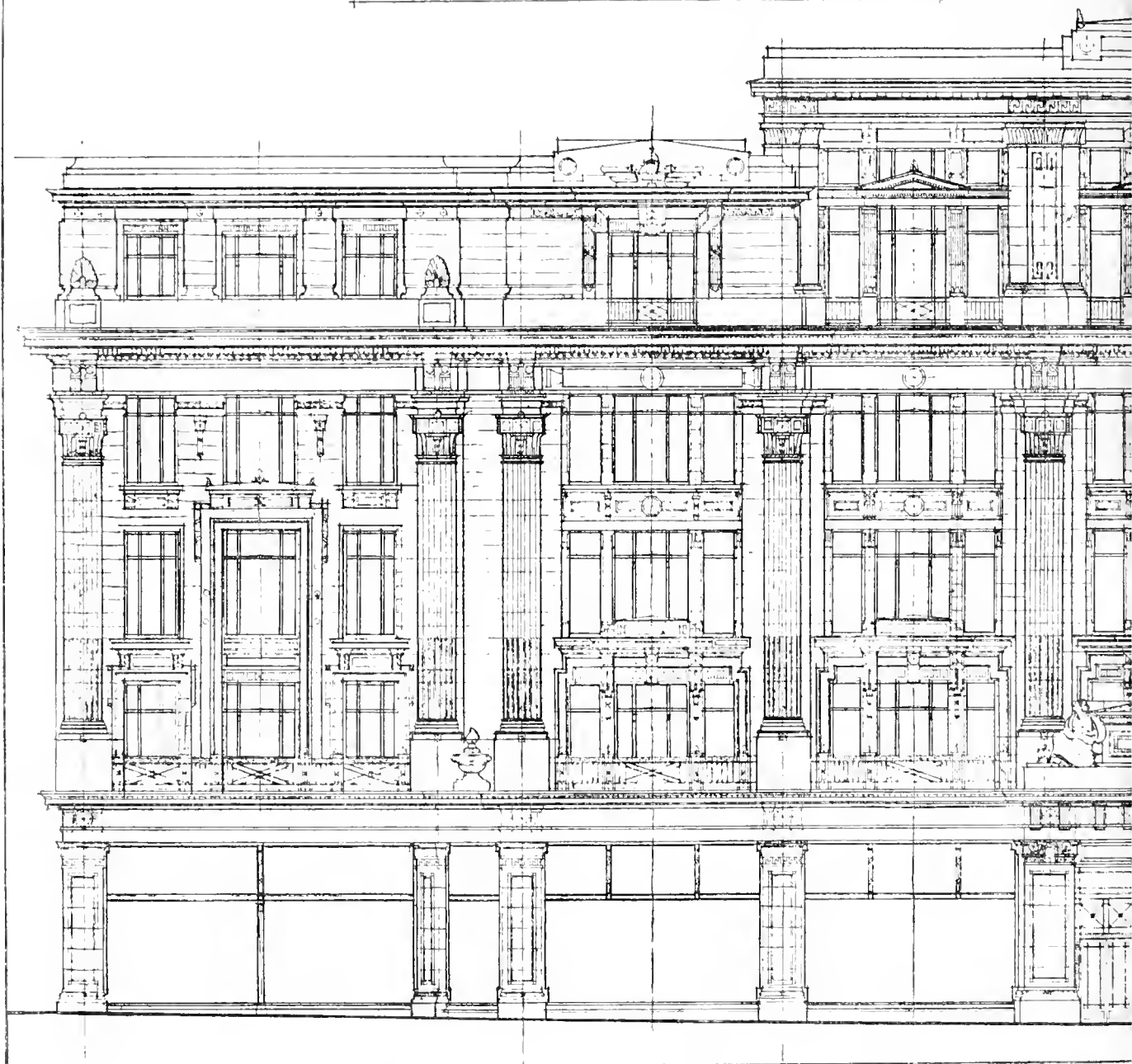
WAR MEMORIAL CENOTAPH, WORCESTER CATHEDRAL.
Messrs. HENRY ROWE and SON, Architects.



STUDY OF DRAPED FIGURES FOR STAINED GLASS.

Designed and Drawn by the late H. W. LONSDALE.

DICKINS & JONES
PROPOSED REBUILDING

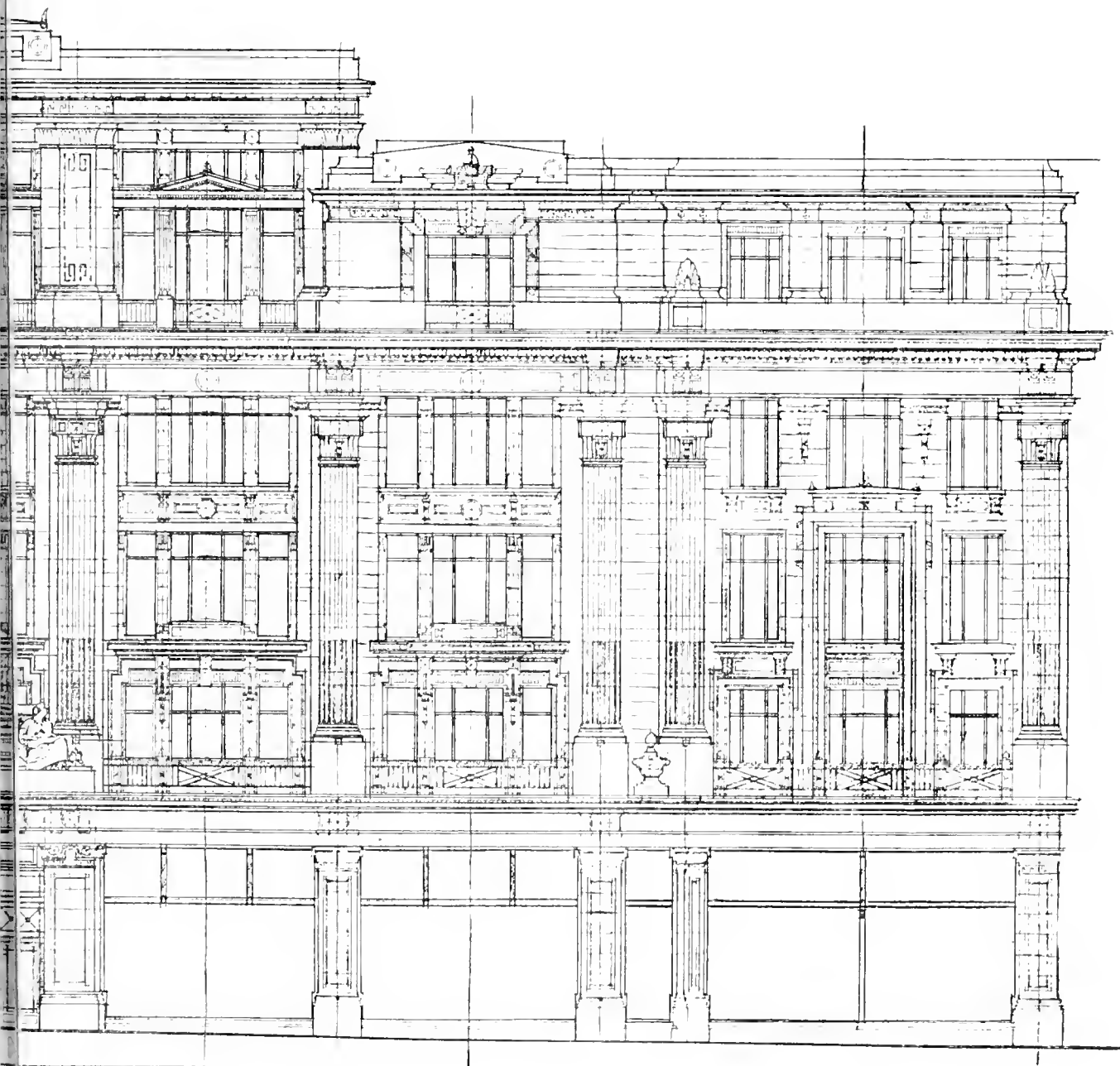


MESSRS. HENRY TANNER (Sir HENRY TANNER, C.B., I.S.C.)

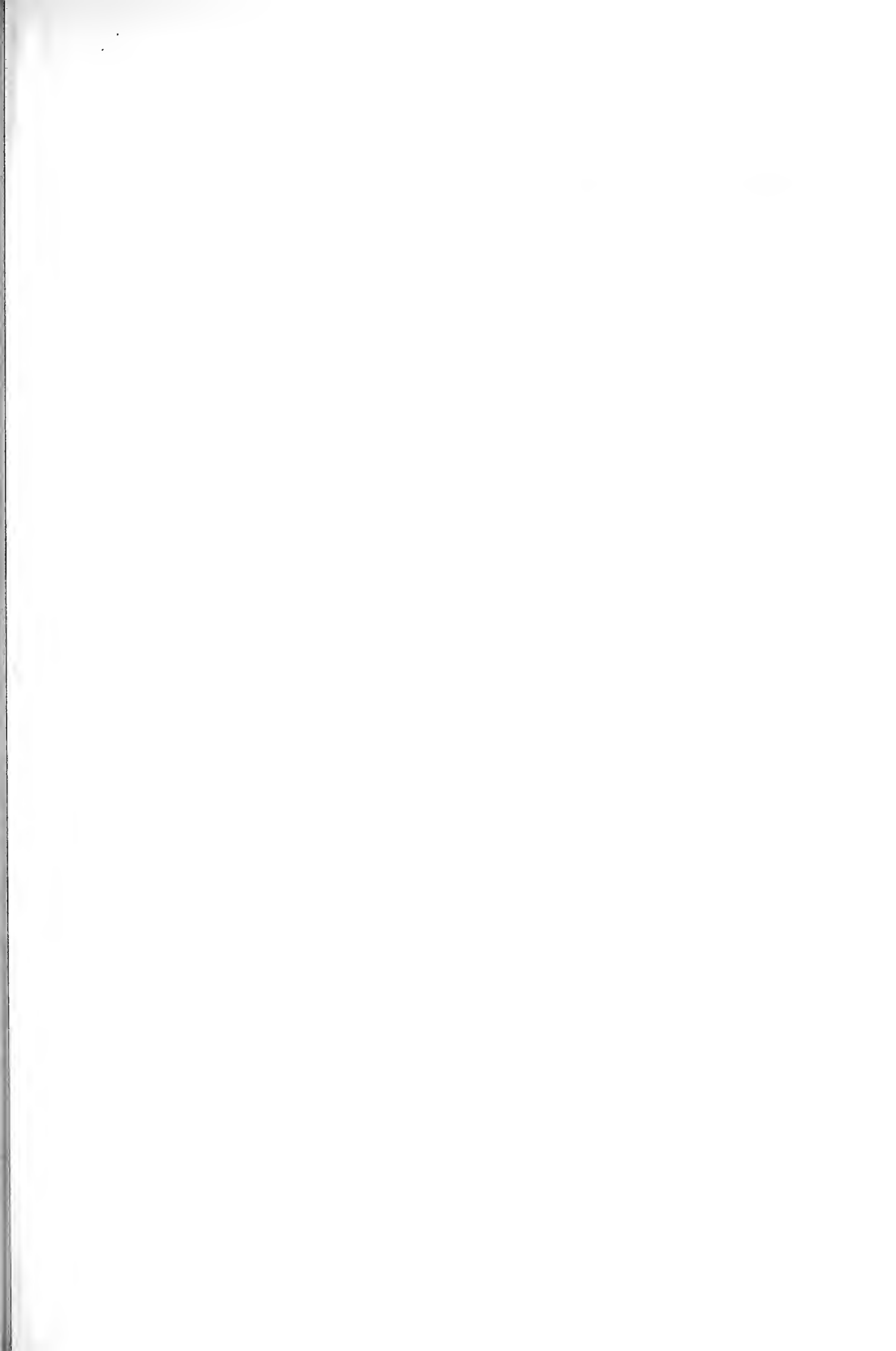
EMBER 14, 1919.

ELEVATION to REGENT STREET

Scale of Feet

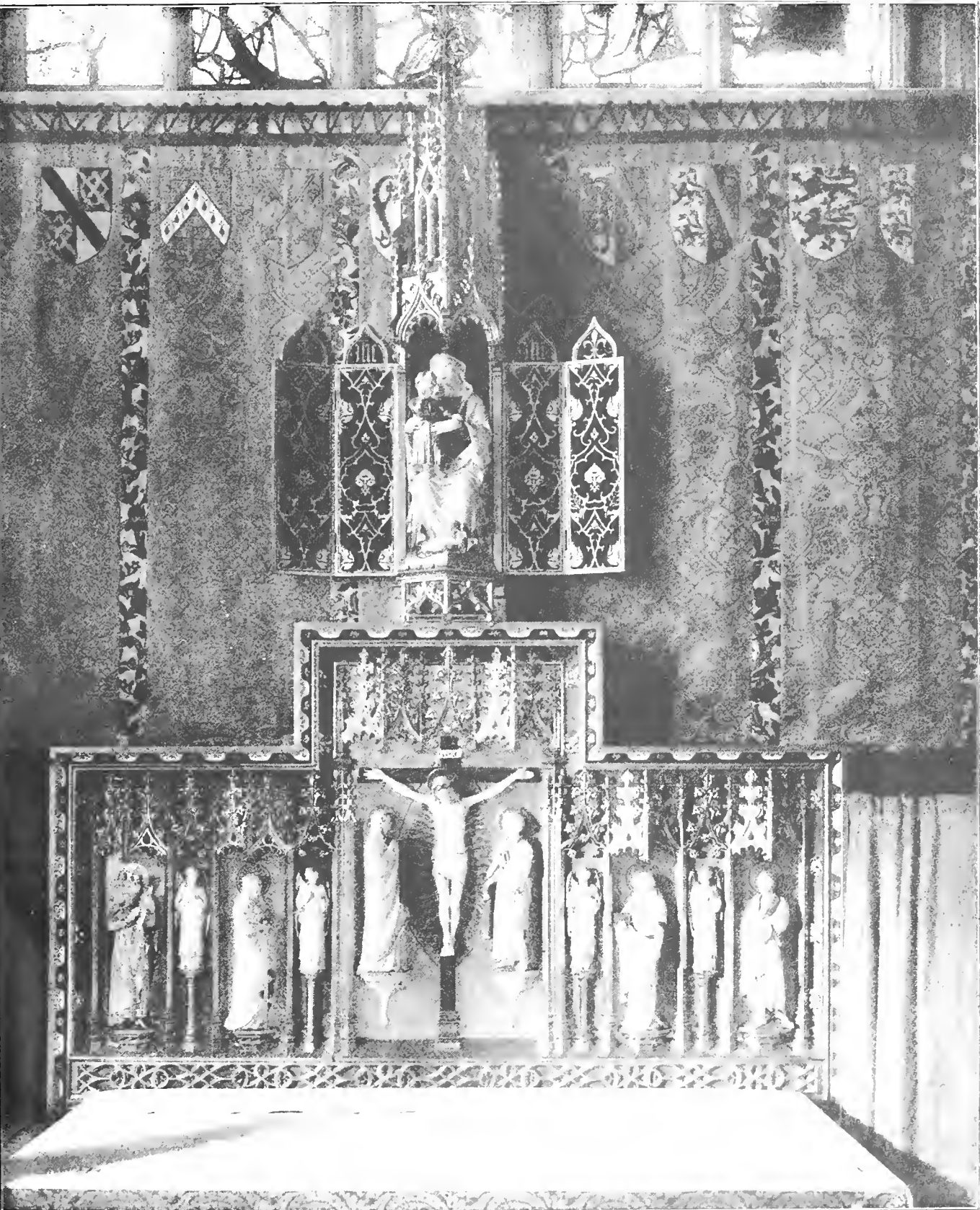


RY TANNER, F.R.I.B.A., and E. J. TANNER, A.R.I.B.A.), Architects.





FAIRFORD CHURCH, GLOUCESTERSHIRE. LADY CHAPEL.
MR. GEORGE



EW REREDOS AND ALTAR. (From the Royal Academy.
n. Architect.

PROFESSIONAL AND TRADE SOCIETIES.

THE INSTITUTION OF SANITARY ENGINEERS.—The annual dinner of the Institution of Sanitary Engineers was held at the Holborn Restaurant on Wednesday evening, a numerous gathering of members and friends being present. In the regrettable absence of the President, Major T. J. Moss-Flower, owing to illness, the chair was taken by Mr. H. B. Martin, engineer and surveyor to the Caterham Urban District Council, who called upon Mr. A. P. I. Cotterell to propose the toast of "Our Public Authorities," which in the absence of Sir Kingsley Wood, M.P., and Alderman Sir Wm. Howell Davies, M.P., was responded to by Lieut.-Col. Seymour Williams. The toast of the evening, "The Institution of Sanitary Engineers," was proposed by Prof. Kenwood, and replied to by the Chairman. Mr. E. C. P. Monson, the president-elect, gave "The Kindred Institutions," which was suitably acknowledged by Mr. E. J. Sadgrove, the President of the Society of Architects. A pleasant musical programme enlivened the proceedings, two specially favoured items being Mr. Thomas Jackson's brilliantly rendered tenor songs and Miss Joan Meredith's admirably executed violin solos.

NORTHERN ARCHITECTURAL ASSOCIATION.—At the opening meeting of the session on Wednesday next a visit will be paid by Mr. J. W. Simpson, President R.I.B.A. The President, Mr. C. S. Errington, F.R.I.B.A., will deliver the opening address for the session. Members are asked to attend at 4.30 p.m. to meet Mr. J. W. Simpson, and to have afternoon tea at the invitation of Mr. C. S. Errington. After the ordinary meeting, members will dine together at the N.E.R. Station Hotel, when the President R.I.B.A. will be present. Dinner will be served at 7 p.m. Seats for the dinner will be reserved for those members intimating their intention to be present to the Hon. Secretary at 51, Fawcett Street, Sunderland, by Monday, 17th inst. Tickets for dinner, 15s. each; wines extra: à la carte. Morning dress.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.—From the Regulations already published in reference to special war exemptions some have thought that these concessions are limited to "students" who were registered before their military service. As this has caused some confusion, it is now laid down that the mere failure to register as a student and pay the fee shall not disqualify, provided the other conditions have been fulfilled, i.e., any candidate who is otherwise eligible but has not actually been registered as a student may be so registered at the same time as he applies to have his claims submitted for the special war exemption.

SCOTTISH ECCLESIOLOGICAL SOCIETY.—The Scottish Ecclesiological Society met last Saturday, when Mr. Jeffrey Waddell, architect, Glasgow, lectured on "The Western Towers of Glasgow Cathedral." These towers, he said, removed about the middle of last century by the misguided zeal of early "restorers," were mediæval structures, part of the history of the Cathedral fabric, illustrating its growth, and adding greatly to its external appearance. The lecturer pleaded strongly for their restoration, which was now, he maintained, more necessary than ever. He urged that they should be rebuilt as a war memorial. In the discussion which followed, Dr. Ross said he was opposed to the restoration, as he considered the towers had been badly placed, and that the design was poor. He mentioned that Kemp, the architect of the Scott Monument, had made a design for the restoration. It was impossible to bring back to them the charm of antiquity, and if towers were to be built it would be better to bring forward the west front. Mr. Jeffrey Waddell replied that the design of the old towers was exactly known, and that most of the carved fragments remained and were available. The lecture was illustrated by sketches and drawings, and by lantern slides of the building as it appeared in bygone times and of the west fronts of Elgin, York, Durham, and other cathedrals. On the motion of Mr. Traquair Dickson, a hearty vote of thanks was given to the lecturer.

SOCIETY FOR THE PROMOTION OF HELLENIC STUDIES.—At a meeting of the Society for the Promotion of Hellenic Studies, held at Burlington House on Tuesday, Mr. Jay Hambridge, the American archaeologist, elaborated his theory of symmetry and proportion in Greek art. There were, he said, two types of symmetry in Nature which might be serviceable to art: one was observable in the phenomena of leaf distribution, known as phyllotaxis, and in the shell. Because of its character of balance in movement this type had been termed "dynamic." The other type was apparent in crystals, cross-sections of seed-pods, and in natural mosaic forms. Because of certain passive characteristics this type of symmetry had been termed "static." Inasmuch as design was not possible without symmetry, it became necessary to eliminate artistic personality from design and classify such works according to the degree. The design of all nations and times fell within the "static" class except two, these two exceptions being Egypt and Greece. The design of these two peoples stood in a class distinct, and the symmetry of their design was overwhelmingly "dynamic." According to Vitruvius, the Greeks were careful to arrange their designs according to certain principles of symmetry, especially so their temples. They were induced to work out the principles of this symmetry when they found that the members of the human body were commensurate with the whole. Vitruvius describes this symmetry in detail, and furnishes elaborate methods for constructing buildings in the Greek style, using for that purpose certain *moduli*. He also undertook to reduce the human figure to a similar base. As no Greek building had been found which agreed with the Roman scheme, Vitruvius, to this extent at least, stood discredited. His scheme for the human figure had likewise proved useless. The use of a *modulus* in design would automatically produce static symmetry. The Roman writer erred in assuming that "commensurability" meant measurableness of length. The present investigation showed that what was meant was commensurability of area, and consequently volume. When the figure of man, or the plant, or Greek design was measured and interpreted in terms of area the result was a revelation. There were three sources for the study of dynamic symmetry: man and the plant, the five regular solids of geometry, and Greek and Egyptian art, particularly the former. We studied man and the plant to learn how the rhythmic themes of dynamic form were actually used by Nature. The five regular solids of geometry furnished us with the abstract fact of the dynamic system, and from Greek art we saw how these rhythmic themes were actually employed by masters of design. The question of consciousness or unconsciousness of use was, for the moment, unimportant. Had he the power he would paralyse the working hand of every artist on earth and keep it paralysed until the facts of dynamic symmetry were known.

STATUES, MEMORIALS, etc.

The Church of St. Botolph was crowded on Saturday week, when a war memorial was dedicated. The memorial, which consisted of a rood beam and figure, designed by Sir Charles Nicholson, consulting architect for the cathedral, will commemorate parishioners who have fallen in the war, and the safety of the city from air raids. The beam and figures are coloured, the figures being carved wood by Messrs. Tozer and Sons, London. The memorial also includes the placing of oak panelling at the east end of the church, on each side of the altar, and a roll of honour, containing the names of ninety-seven parishioners—service men—resting on the south wall underneath the beam. The roof of the edifice has been renovated, and the whole building cleaned by voluntary workers. The memorial cost £250.

BENEFIELD.—On Sunday week the churchyard cross erected as a war memorial to the men of Benefield was dedicated. The cross is of stone, is 19 ft. 6 in. high, and weighs 6½ tons. The two bottom steps are octagonal, 8 ft. 6 in. in diameter, surmounted by a die-

stone with laurel wreath and suitable inscription, also the names of the fallen. The shaft (11 ft.) is octagonal, surmounted by the cross, on which is a representation of the Crucifixion on the west side and the Virgin and Child on the east side. Mr. J. N. Comper is the architect, Mr. W. D. Gough the sculptor, and Messrs. Morris and Sons, the masonry contractors, Kettering.

CARRICKFERGUS.—The congregation of St. Nicholas Church, Carrickfergus, having decided that the memorial to those parishioners who made the supreme sacrifice should take the form of a new bell tower addition to the edifice, the foundation stone was laid by the Lord Primate of Ireland on the 25th ult. According to the plans prepared by Mr. R. Mills Close, honorary architect, the bell tower is to be seventy feet high and eighteen feet in the square. The lower portion will be of block stone, local stone being employed for the faencings, and Portland stone for the dressings. The work above this will be carried out in cut stone. The estimated cost is £3,000. The contractors are Messrs. H. Lavery and Sons, Belfast.

PARLIAMENTARY NOTES.

THE COST OF HOUSING.

Mr. Baldwin, answering Sir P. Pilditch on Tuesday, said:—I would refer the hon. member to the estimate of £10,000,000 recently given as the probable cost of the housing subsidies in a normal year. Sufficient progress has not yet been made by local authorities to enable an accurate estimate to be made of the amount of the subsidy or the charge on rates in each of the next seven years. I am aware that some local authorities find difficulty in raising money in the market, and the Chancellor of the Exchequer has recently appointed a Committee to consider what steps can be taken to assist them to do so.

Mr. J. Jones asked the hon. member whether he was aware that municipalities found it impossible to build houses to be let at anything like an economic rent, and what steps the Government were prepared to take to enable them to do so. Major Lane-Fox asked whether any of these local authorities had applied for and received subsidies. Mr. Baldwin replied that the question should be addressed to the Minister of Health. Mr. Macquistin: How many houses have been built or are in process of being built?

Dr. Addison said about 20,000 are being built. An Hon. Member: We want to know the number built. Dr. Addison: I have answered that question four or five times already. Mr. Baldwin, replying to Mr. J. Jones, said that until the houses were built, and the cost ascertained, they could hardly say what the economic rent would be. Mr. J. Jones asked whether the hon. member was aware that ordinary working men would be unable to pay the economic rents which were suggested, and, receiving no reply, he said: "Cannot I have an answer?" The Speaker told the hon. member he should put his question down upon the paper.

Sir P. Pilditch asked whether it was suggested that the second ten millions to which the Financial Secretary to the Treasury had referred was anything like accurate in view of the immense cost of building. Mr. Baldwin: Of course, it is only an estimate; but I see no reason at present to depart from it. Mr. D. Irving asked what the Departments had done to meet the difficulty; and Dr. Addison replied that the matter had been explained at great length to the House, and that he would send the hon. member a copy of the regulations, which were explicit.

At the meeting of the R.I.B.A., to be held on Monday, November 17, at 8 p.m., Mr. W. R. Davidson, A.R.I.B.A., Housing Commissioner for the London Area, will read a paper on "The Problems of London Housing."

The plans for the erection of the St. Gaudens statue of Abraham Lincoln in Parliament Square have been finally approved, and the American committee which presented it to this country has accepted responsibility for the expenditure of £3,000 in preparing the site and erecting the pedestal, which will be a block of granite of twenty tons.

Our Office Table.

Numerous devices have been tried in the past to space wood blocks sufficiently to permit the entrance of paving pitch into the joints, and to prevent bulging of the pavement due to swelling of the blocks. An American experiment made recently in the use of corrugated cardboard spacers appears to the *Engineering News Record* to have been entirely satisfactory. The corrugated cardboard used is $\frac{3}{8}$ in. thick by $1\frac{1}{4}$ in. deep, and is laid in the transverse joints of the pavement, necessitating the blocks being laid continuously across the street, one row at a time. When the pavement has been laid, paving pitch is poured over the blocks and squeezed into the joints in quantities sufficient to fill them one-half their depth. Sand is swept into the unfilled space, and the pavement is then ready for traffic. The end joints of the blocks are filled by the pitch running around the corners from the transverse joints, thus completely filling all the interstices against the entrance of water. Every joint is an expansion joint, permitting the blocks to expand to their maximum size without buckling the pavement.

The Dean of Windsor, lecturing last Friday at the Royal Albert Institute on St. George's Chapel, the work, he believed, entirely of Englishmen, drew attention to the danger threatening the historic building. He stated that the roofs of the choir and south transept were in a precarious condition, adding that even during this winter the roof of the latter might come down. The strength of the roof was very delicately adjusted, so that the least injury to any part was enough to make it dangerous. The whole of the buttresses and the tracery would have to be rebuilt or else the roof would fall. They had already shored it up with wood, but the work of repair could not be delayed any longer with safety.

At a meeting of the Uffington Rural District Council last week at Stamford, considerable discussion took place on the housing question, and much dissatisfaction was expressed with the terms of the regulations for the financial assistance of local authorities issued by the Ministry of Health. The council were of the opinion that local authorities acting *bona fide* are entitled under the Housing Act to absolute protection against a loss in excess of the stipulated produce of a penny rate, and also that they should have been given an opportunity of considering the regulations dealing with a matter of such vital importance before they were issued by the Ministry. They also felt that the annual reduction in respect of unoccupied houses should not be limited to 5 per cent., and that the allowance of 15 per cent. for repairs was inadequate. A resolution to this effect was ordered to be sent to the Ministry. Mr. C. H. Woolley said they would never find anybody in the villages who could afford to pay a rent of £30 a year for a cottage, and Mr. E. R. Warth remarked that if the houses were let at £30, in 1927 they would be empty, and the authorities would have to appeal to the Government to lower the rents. The Rev. C. J. Cartwright, the chairman, doubted whether the Government had got the money to pay for the housing scheme. The meeting considered the financial aspect of the scheme was unround, and that the cost, which would be tremendous, would eventually fall on local authorities.

Strong criticism of the Ministry of Health was made by the Spilby Rural District Council at their last meeting, when Mr. F. W. Capes inquired whether, when the Sanitary Committee was appointed with plenary powers regarding housing, it was ever contemplated that the district would be saddled with a scheme for building 166 cottages at a cost of £100,000 without the matter having been referred back to the council? The conditions under which they were to build had materially changed. They were told they would be rapped over the knuckles if they did not go forward, and would lose the grant. They were also told that the cost to the rates would not be more than a penny rate, but

now that had gone.—The chairman (Capt. W. Hoff): I am afraid we can do nothing.—Mr. Capes: That's what we were told before.—Mr. J. W. Thompson: We have been "had" over this job.—Eventually it was unanimously decided to send to the Ministry a strong resolution of protest against "this shifting of ground from under their feet."

The names and qualifications of Commissioners to be appointed under the Forestry Act are as follows:—Lord Lovat (chairman).—Owner of extensive woodlands and closely identified with forestry in Scotland. Mr. F. D. Acland, M.P.—Chairman, Home Grown Timber Committee; chairman of the Forestry Reconstruction Sub-Committee; chairman of the Interim Forest Authority. Lord Clinton.—Former president of English Forestry Association. Mr. L. Forestier-Walker, M.P.—Will answer for the Commission in the House of Commons; will represent Wales. Sir John Stirling-Maxwell.—Assistant Controller (Scotland). Timber Supply Department, Board of Trade; will represent Scotland. Mr. T. B. Ponsonby.—Member of Interim Forest Authority; will represent Ireland. Mr. R. L. Robinson.—Member of Interim Forest Authority; secretary, Forestry Reconstruction Sub-Committee. Colonel W. T. Stewart-Fotheringham.—Member of Interim Forest Authority; will represent Scotland.

Commenting on the reference on page 394 of our last issue, to the cost of party walls, Messrs. Pilditch, Chadwick and Co. (Old Bond Street) write:—"Generally, we think Mr. Riley is right under the wording of the London Building Act, which uses the word 'expenses,' and not 'value'; but it follows from that reading that adjoining owners building subsequently, and using a wall erected by their neighbours before the war, will score a distinct advantage in that they will get the user of a wall at something like one-third of what they would have to pay for it if they built it now. In fact, the building owner will be debarred from realising the current value of an investment which has gone up. Equitably, we think, the advantages and disadvantages of the rise should be shared between the parties, but we agree the Act does not provide for that."

Mr. Pratt, in answer to Major Henderson, states that the number of houses in course of erection in Glasgow under the Scottish Housing Act is 146. None of these houses has yet been completed. The Scottish Board of Health have approved plans for 3,740 permanent houses. These include a large number of types, which will be repeated as schemes develop. Approval has also been given by the Board to the plans of 500 temporary wooden houses. All house plans submitted to date have been approved. The Board have under consideration a proposal by the Builders' Federation that, in order to expedite building, contracts should be allocated among the members of the federation at a price previously agreed upon by the Board, the local authority, and the Federation. Building operations so far are on too limited a scale to be taken as a basis for the rate of progress.

It has been reported to the Council of the Royal Institute that there are cases where housing schemes are being delayed owing to the whole of the work having been entrusted to the local borough surveyor or engineer, whose official duties make it difficult for him to give much time to this new work. Should Members or Licentiates be acquainted with any such cases they are invited to forward particulars, in the case of London and the home counties to the Secretary, R.I.B.A., and in the case of other districts to the local Allied Society.

Sir Ambrose Poynter, lecturing at Picton Hall, Liverpool, on Tuesday, remarked that an imperishable quality should mark war memorials, giving them such immortality as human hands could achieve; they were not intended to serve the needs of the moment. Sir Ambrose explained the nature of war memorials, which ranged from a simple stone to a magnificent building, showing how they might commemorate a victory, or a regiment, or simply an individual, and then, with the aid of a number of lantern slides, he described numerous famous and little known memorials

with the object of giving a standard of comparison in connection with the erection of memorials of the great war. The obelisk, said Sir Ambrose, was a form of memorial suitable for a large open space in a city; it gave a dignified and strengthened centre. Symbolism in memories had fallen into disuse to some extent; direct representation of the object or person commemorated had largely taken its place. The Nelson Monument in St. Paul's Cathedral was the least pleasing example of symbolism mixed with direct representation. Churches were contemplated as war memorials, and he thought that the erection of a baptistry was a good idea for a memorial. He emphasised the necessity of obtaining the services of a capable architect for the erection of war memorials.

"The Earthenware Collector," by G. Wooliscroft Rhoad (London: Herbert Jenkins, Ltd., 3, York Street, St. James's, S.W.1, 6s.), is a most useful illustrated guide, by a practical potter, more especially to the work of the period beginning with the picturesque Slip ware and Wrotham, in the early decades of the Victorian era, when Pottery shared the decline inseparable from the greatly increased resort to mechanical production, and felt the blast of the tyranny of commercial and utilitarian domination. It will help the collector to detect many forgeries and to avoid worthless specimens, for which otherwise he will pay dearly for his acquisitions.

The National Conciliation Board for the Building Trades, it is announced, has decided to operate a 44-hours working week as on and from May 1, 1920. Where the present average hours are less than 44 there is to be no reduction in the rate of wages per hour. In notifying the change to their members the Executive Council of the Amalgamated Society of Carpenters and Joiners state that it will revolutionise the conditions of employment in the industry, and it is the duty of the members to do everything possible to assist those who will be responsible for its universal application.

Some Russian Zionists in England have formed a company, entitled "Haboneh" (the Builder) for the promotion of building operations in Palestine, registered here with a capital of £200,000.

The Government's final intention regarding the Whitehall Cenotaph is announced in a letter to the Comrades of the Great War, which approached the Office of Works on the matter, as follows:—"The Government's intention is to re-erect the Cenotaph in permanent form on its present site, which, as its name implies, is intended to represent an Imperial grave of all those citizens of the Empire, of every creed and rank, who gave their lives in the war." The letter adds that there are "obvious objections to the present site were the Cenotaph to be converted into an actual tomb."

At the last meeting of the Cumberland County Council, Mr. George Pearson, moving the confirmation of the minutes of the Lunacy Committee, referred to the appointment of Mr. H. E. Ayris as architect to the committee at a salary of £100 a year and out-of-pocket expenses for all necessary paper, stationery and stamps, the appointment to date from October 1 and the salary to include all new work not requiring plans and not exceeding £1,000 in cost. For work costing more than £1,000 Mr. Pearson said that Mr. Ayris would get the usual commission. It had been necessary to appoint someone to do this work owing to the resignation of Mr. Oliver, for whom Mr. Ayris did a great deal of the work required at the Asylum, and he was prepared to do it again. The proportion of salary that he received was £100, and the Westmorland members of the committee were agreeable to the arrangement. Mr. Yeates seconded the motion, and it was carried. The Joint Office Staffs and Salaries Committee, after interviewing a number of candidates for the post before the meeting, recommended the Council to appoint Mr. A. G. Chant, second assistant to the East Yorkshire Riding County Council, Chief Assistant to the Cumberland County Architect. The recommendation was confirmed.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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OUR ILLUSTRATIONS.

The Draper Chantry, South Choir Aisle, Christ Church Priory, Hants: from a Water-colour by Mr. James Burns, I.S.O., Royal Academy, 1919.
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Strand, W.C.2

The High Commissioner's Room, Australia House, London. Detail Photographs from the Royal Academy. Messrs. A. M. Mackenzie, I.L.D., and A. G. R. Mackenzie, F.F.R.I.B.A., Architects.
Messrs. Dickins and Jones's New Premises now building in Regent Street, Argyll Place, and Argyll Street. Elevations, working drawings. Messrs. Henry Tanner (Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A.), Architects.

Currente Calamo.

Perhaps the best encouragement to Dr. Addison at the moment is the very practical example of the possibility of good and rapid house building set by our contemporary, the *Birmingham Daily Mail*, from whom we have received plans and a photograph in connection with its scheme for providing an object lesson to our local authorities. Each house will cost, together with the land, about £1,000, and the contract is on the Colwyn system. The contract was only signed on Saturday, November 8, and building operations commenced on the morning of Monday, November 10. The photograph shows the progress made by Saturday last, after just five days' work. The site seems an eligible one, and there is little doubt that a satisfactory result will be secured. We have asked for a photograph and plans when finished, and a full description; and, meanwhile, congratulate our contemporary on its enterprising contribution to the problem which so urgently claims solution.

Candidly, we have little hope of any good following the discussion in the House of Commons on the housing question that it is to take place to-day. The debate in the House of Lords yesterday week at least showed that Lord Buckmaster and Lord Peel knew what they were talking about; but, so far, the House of Commons has given no evidence that it knows or cares anything about the matter, but that it is likely to be bull-dozed into acquiescence with the policy of meddle and muddle which has characterised the action of the late Local Government Board and the Ministry of Health from the start, as it has this week once again surrendered its independence to the Prime Minister and made us stink in the nostrils of our enemies all the world over. We are told by some of the papers that the Government is ready with another quick-change movement, and that Sir Tudor Walters, who is now Paymaster-General, has a big scheme for subsidising private builders, and is to be put in charge of it. We are also told by the Ministry of Health that arrangements have been made by which, through the Director of Building Materials Supply, persons building houses for the working classes will be able to get materials at 10 per cent. less than ordinary prices—of course, after obtaining certificates obtain-

able after the usual delays of the various branches of the Circumlocution Office. We are pessimistic as regards the prospect of any good resulting from either change and absolutely certain that either would do little but add to the cost of the upkeep of the army of officials who are daily piling up charges which will never be divulged by the Government, but which are adding portentously to the cost of the houses that are to be built.

The first step in the right direction would, as Mr. William Woodward declares in the *Times* of Tuesday last, would be to compel the Government to surrender its present control over all building materials, get rid of every official connected with the scheme, and then, as the houses must be built, well and healthily, order all builders of these houses to submit their plans and specifications to the district surveyors, so far as London is concerned, and to local surveyors so far as the country is concerned. The metropolitan district surveyors are, as he points out, thoroughly competent, practical men; they have all passed the qualifying examination of the Royal Institute of British Architects, they have no fads or fancies, their charges are statutory, and, with Government help to private enterprise, with adequate security, and with the elimination of all red tape, we could obtain all that is needed in new houses, built in accordance with plans to suit varying needs, and such as would command, and obtain, economic rents. We believe with Mr. Woodward that if the 500,000 houses contemplated by Dr. Addison are built, the annual loss to the taxpayer will be certainly not less than £32,500,000. This is on the assumption that the working classes in urban districts would be in a position to pay about 12s. 6d. per week; but if, as in the case of agricultural districts, the occupiers could only afford about 3s. 6d. per week, then the annual loss will be about £50,000,000, which sums, capitalised on the 5 per cent. table, will be respectively £650,000,000 and £1,000,000,000 to be provided by the State, and paid for principally by those of us who will never derive the slightest benefit in return.

That the course suggested is the business-like one is evident from the prompt responses already in the great provincial towns by responsible

builders to lend the co-operation that should have been invited at the start. At Peterborough on Wednesday week the leading builders met the Mayor and Town Council in conference, and it was resolved that the builders hold a special meeting of the local Builders' Federation and discuss the proposals which had been submitted by the Housing Committee. The Town Clerk was also instructed to ask the Housing Commissioner to send a special representative to Peterborough to meet the Committee at an evening meeting, and to remain in the town during the whole of the next day to interview any builder who might wish to submit plans to him for his advice. In this way it was hoped that an agreement might be come to for the speedy erection of a number of the houses required in the city. At Birmingham, yesterday week, the Birmingham and District House Builders' Association met under the chairmanship of Mr. H. M. Grant to discuss matters, and resolved unanimously that the Association has land developed, and partly developed, available for 11,459 houses, and is prepared to proceed with the erection of approximately 4,000 houses for the working classes during 1920, and 6,000 during 1921, provided the necessary financial provisions are made and supplies of materials are guaranteed to be forthcoming as and when required. We are persuaded that in every centre where houses are wanted similar responses would be hearty, and that some such national insurance of good work, competent superintendence, and freedom from officialism, as Mr. Woodward suggests, would guarantee success.

The Irish Local Government Board is treating architects in a much more business-like fashion than its English brother authority did or the Ministry of Health is doing; indeed, its action is a not inconsiderable step forward towards State recognition of qualified architects. We have received from the Royal Institute of British Architects copies of the notices sent by the Irish Board defining the qualifications it will insist on of all architects to be employed under the Housing Acts, and the conditions of their employment and remuneration. These are fully set out, and comprise all members of the R.I.A.I.; all members of the R.I.B.A.; City and Town Surveyors who satisfy the Board that they are *personally qualified*;

and persons who by examination or other evidence satisfy the Board in regard to their qualifications. The Board have further decided that a panel of architects qualified for employment shall be formed; and to this end have established a joint committee, consisting of the four members of the Boards Housing Committee and two architects selected from four nominated by the Council of the Royal Institute of the Architects of Ireland, viz., A. E. Murray, Esq., R.I.A.A., F.R.I.A.I., F.R.I.B.A., and G. P. Sheridan, Esq., F.R.I.A.I., A.R.I.B.A. The Joint Committee will from time to time recommend to the Board for inclusion in the panel the names of persons who do not appear on the rolls of membership of the Royal Institute of the Architects of Ireland or Royal Institute of British Architects, but who produce satisfactory evidence under Rule 3 of the Order that they are qualified for employment. No person in the list of qualified persons who is in the service of H.M. Government is to be eligible, so that officialism will not monopolise the cushy jobs as here. The scale of remuneration is a fair one, and the general provisions adequate. Copies of the documents can doubtless be seen here at the R.I.B.A., and we advise their perusal.

A well-intentioned and not uninteresting exhibition by the Arts League of Service, of which Lord Henry Cavendish Bentinck, M.P., is the President, was opened on Tuesday at the Twenty-One Gallery, Durham House Street, Adelphi, and will remain on view till December 18. The objects shown are mostly by exhibitors at the New English, The Friday Club, or the London Group, who have turned their hands to crafts work for furniture, textiles, fittings, and models for architecture and interior decoration. Some of these, as the foreword to the catalogue states, are undoubtedly "of a tentative nature . . . evidence of what the artist called to exercising his gifts for everyday life could do . . . should there exist an organised and persistent demand for this side of their work." That, in some instances, such a demand does not exist to-day was admitted to us by the courteous Honorary Organising Secretary, who assured us that Edward Wadsworth's "Suggestion for a Building" (No. 2 in the Inner Room) without doubt foreshadowed the certain response of the architect twenty years hence to their then prevailing conditions of life. To-day, the not very evident provision of a door, or, if speedy entrance by aeroplane from the roof has been prohibited, is more apparent. The originality of the style, however, is undeniable. The other models—of a living room and nursery, by Annie Estrella Rice; of the exterior and interior of a cinema, by F. Dobson; of a public house, by E. McKnight Kauffer; of a cottage living room at Lavenham, with painted furniture by Camilla Doyle; and of a boudoir, by Mary McDowell—are less Futurist. S. D. Evans shows a War Memorial Design for a block of four cottages. Alan Darot exhibits a quietly designed and executed Processional Cross in ivory and ebony, made for St

Matthew's Church, Brixton. The other forty or more exhibits comprise tapestry—conventional and otherwise—screens, furniture, pottery, rugs, etc. The exhibition as a whole should attract all desirous of furthering the objects of the League, which, praiseworthy, are to bring Art and its activities into the towns and villages, and to stimulate the creative imagination of the worker, and proficiency in craftsmanship.

LIGHTING ECONOMICALLY.

Economy is a popular word in these days, and no man need be ashamed to confess that he is an earnest seeker after the less expensive. Unfortunately, however, a great proportion of these painstaking searchers are not quite sure about the object of their quest. Some think that economy is mere lowness of price, others make it an excuse for diverting expenditure from things of public reprobation to more reputable channels; while perhaps the majority look upon economy purely as a matter of restricted consumption.

In order, therefore, to discuss lighting economy, it is necessary to define exactly what is meant by the expression. Economical lighting does not necessarily mean spending less money or using less light, although it may mean both of these things.

Economical lighting really means having all the light necessary or desirable at the lowest possible cost. Lighting which is unnecessarily expensive is uneconomical, no matter how beautiful and brilliant the result may be. Similarly, lighting which is inadequate or cheerless is uneconomical, however small the quarterly account. There are two aspects to this matter of lighting economy; one relating to the production of light, and the other to the use of light. The economical production of light depends upon the efficiency of the light source, whereas the economical use of light is a matter of equipment and arrangement. For the proper consideration of the former aspect it is necessary to summarise very briefly the history of the incandescent electric lamp.

Light is an emanation of energy, and, so far as artificial illuminants are concerned, is produced by the conversion of heat energy into visible radiations. Any substance will, if raised to a sufficiently high temperature, radiate light, and the higher the temperature the more light will be radiated. In addition, the efficiency of light production increases with increased temperature. That is to say, a substance which, at a temperature of 600 degrees Centigrade, gives off so much light, will, if the temperature be raised to 1,200 degrees, give more than double the light. That is one of the basic principles of light production. Another is that all heat radiated or conducted from a light source is, from the lighting point of view, wasted energy.

The thing to be aimed at, therefore, is to find a substance or appliance capable of being heated to the point of maximum efficiency, that is, the temperature at which all the heat will be converted into visible radiations—or light. Such a light source would have an efficiency of 100 per cent., and although possessing an enormously high temperature, would not cause any feeling of warmth to a hand held close to it.

ELECTRIC LAMP PROGRESS.

Let us see how this theory works out in the case of the incandescent electric lamp. It is common knowledge that heat is produced by obstructing the passage of an electric current. This fact is taken

advantage of in the electric lamp by the use of a fine filament which offers considerable resistance to electricity. When the lamp is switched on the electricity forces itself along the filament and heats it to the point of incandescence, thereby causing light to be radiated. In the old carbon filament lamp, which was in general use up to about ten or twelve years ago, only a small proportion of the heat was converted into light because, owing to the low vapour tension point of the filament (i.e., the temperature at which the material would tend to vapourise), it was not possible to employ the higher temperature required for more efficient operation. As a result, an enormous amount of unconverted heat was radiated by the lamp, which consumed between four and five watts of electricity for every candle-power of light produced.

And then, about twelve years ago, a tremendous impetus was given to electric lighting by the commercial development of a new filament material which, with a much higher vapour tension point than carbon, could be operated at a greater temperature. This material was the rare metal tungsten, of which the filaments of all modern incandescent electric lamps are made. The metal filament lamp is about four times as economical as the carbon filament lamp. In other words, for a given expenditure of electrical energy, the tungsten filament produces nearly four times as much light as the carbon lamp. The operating temperature of the tungsten filament is considerably higher than that of the carbon filament, but, whereas the former radiates light to the extent of, let us say, 40 candle-power, the latter only gives 10 candle-power, the other 30 candle-power remaining in the form of invisible heat.

THE LATEST DISCOVERY.

By following this line of research, yet another important advance in lamp efficiency was made just before the war. Hitherto the filaments of incandescent electric lamps had always been operated in vacuo, for the obvious reason that the presence of air would have caused oxidation. Now it was found that by filling the bulb with a chemically inert gas such as nitrogen or argon, it was possible to employ still higher temperatures, and to obtain a considerably greater efficiency, than had been feasible with the ordinary tungsten filament lamp. The half-watt lamp, as this new lamp was called, may be distinguished from its less efficient prototype by the greater brilliance of its filament when incandescent, and also by the longer neck of the bulb.

Roughly speaking, the half-watt lamp is twice as economical as the ordinary tungsten lamp, so that during the last twelve years there has been an eight-fold increase in the economy of electric lighting. Whereas the old carbon lamp consumed anything from 4 to 5 watts per candle-power, the half-watt lamp consumes little more than 0.5 watts per candle-power.

Apart from its higher efficiency, the half-watt lamp has the further advantage of being available in a much more extensive range of sizes than any previous type. For ordinary public supply circuits, these lamps may be obtained in a variety of sizes from 60 up to 1,500 watts, so that they are suitable for practically all conditions, from private house lighting to the illumination of streets and the largest interiors.

USING LIGHT ECONOMICALLY.

From the foregoing it will be evident that, for maximum lighting economy, it is essential to select a lamp which for a

given input of electrical energy will produce the greatest amount of light, and also that, at the present moment, the most efficient electric lamp is the half-watt type.

Obviously, the substitution of half-watt lamps for ordinary metal filament lamps of the same candle-power would reduce the current consumption by nearly 50 per cent. On the other hand, if the light was previously regarded as insufficient, but had not been increased because it was not desired to add to the expense of lighting, the half-watt lamp presents the opportunity of improving the illumination by nearly 100 per cent. without any increase in operating cost.

THE USE OF REFLECTORS.

Another opportunity for economy lies in the proper arrangement and equipment of the lamps, with a view to the more effective distribution of the light. The science of artificial illumination has not concerned itself solely with increasing the efficiency of light production; it has also devoted a great deal of attention to the design of reflector equipment which will secure the economical use of the light generated by the lamp.

As an illustration of what is meant by economical use, let us consider a workshop bench lighted by a single lamp suspended from the ceiling. Now, it is obvious that light is required on the bench, and that all light that does not reach the bench is for this particular purpose wasted. In the present instance the lamp is bare, and only about 25 per cent. of the total light is projected on to the bench, the remaining 75 per cent. being wasted on the walls and ceiling. By equipping this lamp with a properly designed reflector, it will be possible to redirect practically all the light on to the working level, but in order not to be too optimistic let us say that 75 per cent. is effective. In this case, merely by placing a reflector over the lamp, we have, to all intents and purposes, brought about a three-fold increase in the useful illumination. If the downward illumination given by the bare lamp was sufficient, then by using the aforesaid reflector the same lighting effect could be obtained from a smaller lamp, consuming only a third as much current.

ÆSTHETIC CONSIDERATIONS.

In a great many cases it is not, of course, desired to concentrate the illumination on the table or desk, as, for example, in the general lighting of a drawing-room or public hall. It is evident that in conditions such as these there will be other criteria of economical lighting than the ratio of the illumination intensity on the table level to the consumption of electricity. A drawing-room requires a soft, well-diffused illumination. Pictures and bric-a-brac must be lighted as well as the writing table and piano. Also, it is essential that there should be no dazzle or glare from exposed light sources. Clearly, in order to satisfy these requirements, it will be necessary to make a certain sacrifice of physical efficiency, i.e., the efficiency which is expressed as the ratio of illumination intensity to energy consumption. On the other hand, there is full scope for that true overall economy, which, as defined earlier, means the attainment of the desired effect at the lowest cost.

There is, for example, no need to cover lamps with coloured silk or glass shades in order to produce a restful and artistic illumination. Such materials certainly eliminate glare, but they perform this service in an appallingly wasteful fashion. Silk shades often absorb as much as 70 per

cent. of the light. A far more economical and effective method of obtaining a beautiful, well-diffused illumination is by the employment of white translucent glass bowls, suspended underneath the lamps. By this means, most of the light is reflected upwards to the ceiling, where it is diffused throughout the room, while a certain amount of light penetrates the bowl and renders it softly luminous. Such a system as this will clearly not produce such a high intensity of light on the table level as could be obtained by means of a reflector which projected the light directly downwards. It does, however, provide an illumination which is highly charming and agreeable, and if half-watt lamps be used, it provides this illumination at the lowest possible cost.

ENGINEER AND ARTIST COLLABORATE.

It is not practicable, within the confines of a single article, to go thoroughly into the question of equipment for economical lighting. The design of electric lighting equipment has for several years past been the subject of collaboration between engineer and artist. And the whole secret of the economical use of light lies in this skilful blending of the utilitarian and the æsthetic, whereby the influence of each is determined by a thorough appreciation of the conditions under which the equipment is to be used. In modern fittings and reflectors, whether for industrial lighting, home lighting, theatre lighting, shop lighting, or church lighting, the elements of artistic appearance and efficiency have been blended in correct proportion to secure any desired illumination result. The manner in which these methods can be applied by builders and architects will be explained in a later article.

The outstanding feature of modern electric lighting equipment is that it has been designed to give definite predetermined results, under particular conditions, so that economical lighting is no longer a matter of haphazard experiment, or trial by error, but can be obtained by any man who will take the trouble to decide upon what sort of illumination he wants, and will then instruct an illuminating engineer to specify the equipment necessary for the purpose in view.

The Bishop of London dedicated a war memorial and a silver cross on the 13th inst. at the church of St. Vedast, Foster Lane, Cheap-side, on the occasion of its reopening.

Sir Arthur Evans, in a further discussion of the new Minoan discoveries, thinks the inscriptions referred to were probably on clay tablets, since no Minoan architectural inscriptions are known.

The famous four horses of St. Mark's, Venice, which were transported for greater security to the Palazzo Venezia, Rome, during the war, have been replaced in their original position in front of the Cathedral.

Believed to have been painted by Holbein, the earliest known portrait of a Lord Mayor of London, Sir Thomas Exmewe, who held office in 1517, has been presented to the City Corporation by Mrs. Lawrence Brodrick.

The Ministry of Health, having approved of the plans for a garden city at Acton Wells, has issued an order for the compulsory purchase of the land. The surveyor informed the Acton Council that he was prepared with men and material to start at the end of the fortnight's notice.

The Westfield War Memorial Village at Lancaster was inaugurated on Saturday last by Lord Richard Cavendish, who laid a commemorative stone over the porch of the first cottage. Lord Richard Cavendish said, of all the happy and felicitous schemes suggested to commemorate the gallant lives laid down for King and country, none combined the two essentials better than the scheme inaugurated that day.

Our Illustrations.

THE DRAPER CHANTRY, SOUTH CHOIR AISLE, CHRISTCHURCH PRIORY, HANTS.

The space occupied by the Draper Chantry was originally a 14th-Century chapel, and there can still be seen a piscina which is claimed to be one of the finest in England. By the erection of the screen it was converted into a chantry or private chapel in 1529 by John Draper, the last prior of Christchurch. It was his intention to have been buried there, but the Reformation prevented this, and he surrendered the priory in 1539 to the Commissioners appointed by Henry VIII. It is built of Caen stone; the work was executed by one of the travelling guilds of masons. The chantry showing on the left was erected by Robert Harris, one of the canons of the priory, and is known as the Harris Chantry. He was the canon appointed to administer to the people in the nave, which was the portion of the building reserved as a parish church. The flag in the forefront of the picture is the banner of General Sir William Gordon Cameron, G.C.B. It was formerly hung in Westminster Abbey, but was removed at his death to the priory, which was his parish church. Our illustration is reproduced from a water-colour shown at this year's Royal Academy by Mr. James Burns, I.S.O., of Bournemouth.*

THE HIGH COMMISSIONER'S ROOM, AUSTRALIA HOUSE, LONDON.

This apartment is situate over the chief entrance door, and the prospect from it is towards Fleet Street. The walls are panelled in Australian black bean wood, same as the library, of which we shall reproduce a photograph from the Royal Academy this year. The same timber was used for all the apartments of the first floor occupied by the High Commissioner's offices, including the rooms provided for the Commonwealth Ministers when in London. Our pair of detailed photographs published to-day were included in the architectural exhibits at the Royal Academy, 1919. Messrs. Marshall Mackenzie, LL.D., A.R.S.A., and A. G. R. Mackenzie, FF.R.I.B.A., are the architects.

MESSRS. DICKINS AND JONES' NEW PREMISES, REGENT STREET.

We gave the main façade of this large emporium building now in course of erection on the island site between Regent Street and Argyll Place in *THE BUILDING NEWS* last week, when some particulars were printed in the letterpress. To-day we give further working drawings of the side elevation in Argyll Street and the rear front in Argyll Place. Some details will follow at an early date. Messrs. Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A., of Carlton Chambers, S.W., are the architects. The general contractors are Messrs. Higgs and Hill, of Crown Works, Lambeth Road, S.E.

* A complete set of "measured drawings of Christ Church Priory Church, by Mr. G. J. Coombs, will be found in *THE BUILDING NEWS* for April 27, 1906, and Mr. Percy Stone contributed some geometrical drawings of the North Transept in our issue for October 29, 1883: in the same number a view of the exterior of this part was given by Mr. C. J. Irwin. A general view of the whole church was published by Mr. J. Donkin, December 8, 1893. Details of the North Porch, December 16, 1887. Bishop Flambard's Norman Stair Tower (National Gold Medal drawing by Mr. George Marples), August 4, 1889. View from the triforium of choir (National Prize Water-colour Drawing, by Mr. H. Whitcomb), August 21, 1903, and another illustration, October 29, 1886, from the same building.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE PROBLEM OF LONDON HOUSING.

There was a meeting of the Royal Institute on Monday last, when Mr. W. R. Davidge, Housing Commissioner for the London area, discussed the problem of London housing. Mr. John W. Simpson (President) was in the chair. The address was preceded by the announcement of the losses by death the Institute had sustained since the close of last session, and a vote was passed expressing regret for the loss of Sir Edward Poynter, President of the Royal Academy and Honorary Fellow of the Royal Institute of British Architects, and sending a "message of condolence to his son, our esteemed Fellow, Sir Ambrose Poynter."

Mr. Davidge said there was never a time when London was so full of people or the houses available so few. This was not a new problem, however. In 1766 John Gwynn wrote upon the subject. He said: "To give any probable reason why such a prodigious increase of building has been encouraged in this Metropolis may perhaps be esteemed no part of the author's business; but whether it proceeds from the migration of foreigners or from so many convenient roads being made from all parts of the kingdom; whether it be owing to our own people's deserting their native homes and quitting their innocent country retreats for the sake of tasting the pleasure of this great city (thereby greatly enhancing the price of provisions and every other necessary of life); whether the profits of a successful war has enabled some to keep houses who were formerly contented with lodgings; whether it is owing to the arrival of others, who, having acquired fortunes in the plantations, come to spend them here; or to the monopolising of farms, that is, making one large farm out of three or four small ones, and thereby compelling the farmers who are turned out of them to seek their bread in this Metropolis, are all considerations well worth inquiring into: as it is certain that notwithstanding the amazing increase of buildings, houses are still procured with difficulty, and the rents of most are perpetually increasing; but these are questions which it is hoped some more able persons will think it worth their while to answer."

Of present-day conditions, the lecturer said that at the census of 1911 Greater London had 7,252,983 inhabitants. Of these, over 40 per cent. lived in tenements of three rooms or less. There were then 758,786 persons in the County of London living in conditions of overcrowding, and that number was now probably immensely increased. There was an outward movement of the population. Additional office, factory, and commercial buildings in and around the central area were gradually displacing the dwelling-houses, and a slow but steady change of character was evident in many a London square. At the same time, there was a tendency for people who could afford it to live further and further out. Hence the population of the County of London showed a tendency to decline. This tendency showed itself in the City and Hobborn as early as 1861. Finsbury, Shoreditch, St. Marylebone, and Westminster followed in 1871. St. Pancras and Chelsea in 1891, Bermondsey in 1901, and Southwark and Stepney in 1911. To-day Islington and Kensington had also begun to lose their population. The present shortage of houses was marked not only in London, but everywhere, and was primarily due to the productive forces of the building trades having for a long period been engaged in other activities. The Finance Act of 1909 might or might not have aggravated the position as it stood immediately before the war; but, whatever the cause, in 1906 the houses built in England and Wales numbered 99,905, and in 1914 only 45,632, and during the war years this number had dwindled to vanishing point. Calculations made as to the shortage of houses at the present time varied from 300,000 to 1,000,000 or more: the area extending fifteen miles around Charing Cross contained one-sixth of the country's population, so that the need of that area was at least 50,000 houses, without counting those which would have to be rebuilt or reconstructed. For housing purposes London had been extended to include all urban or rural districts any part of which

came within the Metropolitan Police area, and within these borders 60,000 houses were estimated to be necessary, apart from the clearance of 200 slum areas. There were also a great number of unfit houses which, although they could not be condemned at present, must be put in habitable repair or reconstructed so soon as labour was available. There were whole districts where practically every house was occupied by two or three families, and certain districts in the East End where the average rose to nearly ten families or more. The cost of building had risen approximately in proportion to the cost of living, and it had become increasingly difficult for private enterprise to provide the necessary houses, while legislation had restricted the increase of rents; so that, unless some form of subsidy was available, very few houses would be built. In the circumstances, the course adopted had been that the local authorities had been called upon by the Government to provide the houses, the Government guaranteeing such authorities against any annual loss in excess of the produce of a penny rate. Assistance had also been offered to county councils for housing their employees, and to approved public utility societies to the extent of 30 per cent. of their annual loan charges incurred in connection with housing schemes. The majority of local authorities were new to the subject of housing, and in Greater London the difficulties of the situation were increased by uncertainty as to the provision to be made in any particular district, for the calculations of an outlying district might be upset by the coming or going of any large employer of labour, or by the planting of a new colony from one or more of the adjoining urban communities. Various proposals had been under consideration for securing a representative housing authority for Greater London, on which all existing authorities could be represented, and there was need for such a co-ordinating authority to deal with housing and transit. Greater London was made up of 117 more or less self-governing authorities, and it was no part of the duty of such a local authority to consider even the needs of its immediate neighbour. Housing sites were often chosen with little regard to the general needs of London, and, among other suggestions for bettering this state of things, the creation of a number of new garden cities in the present agricultural areas on the fringe of Greater London had been proposed. The present demand for houses in London was sufficient to fill eight such cities for residential use only. A combination of local authorities was also suggested, and an example of such combination would be worth a great deal to London at the present time. The necessary powers for it were provided by the Housing and Town Planning Act.

Speaking of the houses being, or to be, erected under the various schemes now in progress or under consideration, the lecturer said the following limiting dimensions should as far as possible be observed:—

MAXIMUM SUPERFICIAL AREAS OF GROUND-FLOOR PLAN.

A. Living room, scullery, etc., three bedrooms.....	578 square feet
B. Parlour, living room, scullery, three bedrooms.....	620 square feet
B4. Parlour, living room, scullery, four bedrooms.....	650 square feet

The proportions of the various types to be adopted in each scheme required in each case special consideration as to the needs of the locality, and the battle between the parlour and the non-parlour types was still going on. To keep the average cost low, a reasonable proportion of small type houses should be introduced in each section of the estate. The proportions of various types usually desired were:—

75 per cent., 3-bedroom houses, with or without parlours as desired.
10 per cent., 4-bedroom houses.
15 per cent., 2-bedroom houses, or cottage flats.

High tenders made it necessary to reduce the dimensions of the houses to the lowest possible terms consistent with efficient house-keeping. The principal item of saving might still be effected by omitting the treasured parlour and reverting to the original or A type house, with a living room, scullery, and

three bedrooms. Much might be said for and against the parlour, but even with the single living room house it was possible to attain a very high standard of comfort and refinement. Many architects, in building their own houses or bungalows, adopted this form of plan.

Of block tenements, the lecturer said that the block tenement had to a large extent had its day, but in the inner metropolitan boroughs the limited amount of available land and the high price of such land, averaging anything up to £5,000, or even £10,000, an acre, rendered the occasional use of such blocks of tenements unavoidable. It should, however, be recognised that such instances were the exception and not the rule, and the State must perforce consider carefully the detailed proposals for all such buildings. At the present cost of building, many comparatively modest proposals for block dwellings would involve the State in a subsidy of something like 30s. per week for each family housed in dwellings of this type, as compared with less than half that amount in respect of families housed in cottage homes a few miles out in far more pleasant conditions. The English ideal had always been the cottage in preference to the Continental tenement dwelling, and it was to be hoped that the idea of one family one house might long remain as our national tradition. (Applause.)

Dealing with materials, methods of tendering, etc., the lecturer mentioned a form of tender where a lump sum was added to prime cost to cover plant administrative expenses and profit. Provided a definite arrangement could be come to as to what was included in prime cost, the method had a good deal to be said for it. Finance, he said, was a difficulty with rates sometimes as high as 15s. or 16s. in the £. Housing and transit must be considered together. The whole problem of the port and industrial development of London required consideration.

The lecture was followed by lantern slides showing plans and elevations of houses in the projected schemes and some houses already in course of erection.

THE DISCUSSION.

Mr. Bernard Holland (chairman of the Housing Committee of the London County Council), in proposing a vote of thanks to the lecturer, said that he had had a great deal to do with Mr. Davidge within the last few months. The relations between the London Housing Board and the L.C.C. were quite friendly, although it was not exactly a case of love at first sight, because it cost a little to give up the full liberty which the L.C.C. had enjoyed in housing matters. The necessity for the change was no doubt partly due to the general situation, which made it necessary to build at a financial loss which could hardly be put upon the local authority, and partly to the anarchy of local authorities around London—some being great, some small, and none of them having ever worked together. He hoped some day London would be made into a large province, with a great deal less interference from the central authority. The L.C.C. had gone on in a modest way before the war under Parts 3 and 1 of the Housing Act, and had partly developed three or four estates around London, but in those days private enterprise could supply all and more than all the new accommodation which was required. At that time, if he was asked why he wanted more money for developing estates, he could not say more than that it was to set an example in building and estate management. He thought more ought to have been done in the way of slum clearances, but it was difficult to get the money, and he remembered once saying that the Housing Committee could not get even the crumbs that fell from the table of the Education Committee. Now it could get the whole loaf, and was becoming the most important committee of the County Council. Mr. Davidge had touched on the difficult problem of slum clearances and how far you were to rehouse the displaced people in the central districts—which could only be done by putting up high buildings. One would like to clear the slums and devote the area chiefly to open spaces, but the difficulty

in London was that we were such a long way from the circumference. How were people to get to and from the factories? Possibly some day there would be legislation inducing the factories to migrate to the outskirts, but until this was done it was difficult to say that we ought to house a much smaller population on a site that was cleared than was originally there. The high buildings were much sought after by people who wished to live near their work; even the fifth storey, although less popular than the others, was full, and had its special attractions for night workers and childless couples. High buildings were necessary if an equal population was to be housed upon a small area when cleared, for one good cottage required the sites of at least three slum cottages.

Speaking of architects generally, Mr. Bernard Holland said he had often felt that he would rather be a bricklayer than a baker, an architect than the editor of a powerful newspaper, for the works of architects and bricklayers were permanent, whereas those of bakers and journalists were either consumed or very stale in a few hours. The L.C.C. had been fortunate in its architects—the one who had just retired was an Irishman; his successor was a Scotchman. The ideal architect ought to have the imagination which was attributed to the Irishman and the practical stolidity which was attributed to the Scot. (Applause.)

The Mayor of Marylebone seconded the vote of thanks. Taking up the last point of the mover, he said that to his shame—for he was a Scotsman—the worst slums in the world were in Glasgow and Edinburgh. As to the finance of housing, there were two things that bore very largely on cost—one long known in the East as kerri-kerri, and the other threatening the West and called ca'canny. Judging from what he had seen in America, the grouping of the houses, as shown in the various schemes, offered magnificent opportunities for central heating on economic lines, thus conserving fuel and preventing the fouling of the atmosphere. As to transit, within a very short time the whole area within a radius of twenty miles from the Tower would shortly be brought under a comprehensive scheme, and London would realise the advantage of unification in electrical supply. Electricity should be much more largely used for other things as well as transit. In America and Germany he had seen how it lightened the work of the housewife and given the mother more time for the bringing up of healthy children. That was one of the great features of the housing problem; we wanted the rising generation to be A1, not C3. (Applause.)

The Chief Housing Commissioner of the London County Council supported the vote of thanks. He said he had been thirty years in India, and the slums of Bombay were infinitely worse than those of Edinburgh or Glasgow. To his mind the main part of the housing problem was to prevent the creation of any more industries in the centre of London, and the removing as many as possible into the suburbs, so as to escape the intensification of the traffic problem which resulted from taking people into the suburbs while leaving the working places in the centre. On behalf of the Bombay authorities, he wished to say how grateful these were to the R.I.B.A. for sending out an excellent architect. Mr. Hawkins was doing good work. He (the speaker) hoped that others would follow and would infuse into the attack on the slum problem there the same spirit as prevailed here.

Professor Beresford Pite congratulated Mr. Davidge on attaining the position he now held. Of the plans, he said that Mr. Raymond Unwin must have been present in the spirit, if not materially at their preparation. Method, area, frontage lines were all entirely different from those under which London had grown so rapidly fifty years ago. He was a little doubtful about the economy of architectural fads. What induced people to put up huge roofs with nothing inside them, not even box-rooms? The old-fashioned brick-box, with a slate lid, was economical. Our forefathers at the Perpen-

dicular period pulled down steep roofs and put up flat ones; the earlier roofs of the Gothic revival were steep, but in the later period they were flat. So far as concerned housing, we were still in the earlier stage. Why not fall back on the curve and have a mansard roof? Thus you got height with a minimum of expense, and gained a whole story in the roof space. Architects should get rid of any prejudices as to the artistic value of one pitch of roof over another, and go for the thing simply on economical lines. The artistic result would come, and, having come, would be more likely to stay than if they sought to engender an artistic idea and applied it to the housing scheme.

Professor Adshhead said that before the war it was economical to put up very tall buildings on expensive land. To-day land was of practically the same value as before the war, but building had gone up in cost 300 per cent. in many cases. He believed it was now a better financial speculation to put up two-storey cottages than five-storey flats on land not worth more than £5,000 an acre.

Professor Richardson asked if the London Society's map had been adopted by the various municipal authorities? He was against decentralisation. He believed in a central area devoted to factories and with dormitories outside. He wanted to see the inner suburbs preserved—the large houses in places like Highbury should be turned into maisonettes for the working classes.

The Chairman said they had been favoured by an expert's treatment of an exceptionally interesting subject, and his remarks had been supplemented by those of gentlemen who administered these enormous schemes. Mr. Davidge had referred to early endeavours to restrict the growth of towns. Earlier than the time of John Gwynn, the French kings had been extremely concerned at the growth of Paris; they feared the city would grow to a point where it would be impossible to feed its inhabitants, and they had sought to stop its growth. One method was to set up stones, beyond which the town was not to be allowed to grow. Nevertheless, houses were built beyond those limits, and it was not quite clear that the Housing Commissioners of that time knew nothing about it. They were observed to acquire great riches in a mysterious manner and to disappear. The houses, once up, could not well be pulled down, so the stones were moved farther out. This occurred again and again. It would have been well if it had been possible to limit the actual growth of Paris by insisting on an open belt and having new centres formed round that, and he had been much struck by a report, to which Mr. Davidge's name was attached, in which it was clearly suggested that fresh centres should be formed at definite intervals around London, and that the natural growth of London should be provided for in that way. How far it might be possible to carry out such a scheme it was difficult to say, but the principle was sound.

Mr. Davidge, in acknowledging the vote of thanks, referred to some of the points that had been raised. He said the London Society's map had been found extremely useful, and every site for a new housing scheme had been put on that map with a view to seeing how it would fit in with proposed new roads. The movement for the decentralisation of industries and dwelling-houses together was under way. Slum clearance was an important duty which must spread over many years. Great changes could not be expected in a year or two.

The Wall Paper Manufacturers' profit for the year ended August 31 last is £336,614; dividend of 8 per cent. on Ordinary shares, making 10 per cent. for year; 5 per cent. on Deferred shares; to contingencies fund, £35,000; forward, £160,416.

The Ashton-in-Makerfield District Council have engaged Mr. George Hunter, M.I.M.E., head of the Mining and Geological Department at the Wigan Mining and Technical College, to make investigations with a view to ascertaining whether the town's water supply can be augmented by utilising resources which it is believed underlie the township area in the local coalfield.

NOTTINGHAM AND DERBY ARCHITECTURAL SOCIETY.

At a largely attended meeting, held on Tuesday, November 11, at 64, St. James Street, Nottingham, three associates were elected.

Various matters of professional interest having been disposed of, the meeting considered the revised scale of charges recently drawn up by the Royal Institute, and decided to adopt these with the addition of the following at the end of Clause 1 (a): "But if the works are of a plain and simple character, the percentage shall be 5 per cent."

Mr. H. GILL, M.S.A., Past President, then opened a discussion on "Registration." He said for thirty-five years, at least, earnest men have been striving to uplift architecture to a place among the learned professions by means of the compulsory registration of every practitioner, but so far without success. Their propaganda, however, has gradually cleared the ground, and I think we are now agreed that registration in one form or another is the most pressing need of the moment. We do not differ so much about the principle, but rather do we fail to agree on the question of ways and means. The pity of it is that until we do arrive at something like unanimity, both as to principle and method, so long will the profession be placed at a disadvantage.

Perhaps it will clear the ground for our debate if I quote from the latest draft of the Architects Registration Bill, put forward by the Society of Architects in conference with Sir C. A. Cripps, K.C., M.P. The speaker then referred to the clauses dealing with persons eligible to qualify, evidence of qualification, titles and distinctions, name or title of architect, recovery of charges, certificates, penalties, etc.

It will thus be seen that registration is not intended to be a levelling down measure, as some have feared that it might be. Neither is it intended to put all architects on one level, any more than solicitors, doctors, or dentists are all on one level. There will still be room for titles and distinctions which may have been earned, and these will be entered on the register.

What I want most to emphasise is that, having left the door open so long, we must now close it effectually but gradually. If we are to be successful we must avoid the infliction of hardship upon anyone; we must first cast the net very wide so that every man who is now earning his livelihood in the realm of architecture may come in if he wishes to do so within a reasonably restricted period of time; when that period has elapsed admission should then only be possible for those who have passed a prescribed test. I know that the objection may be raised that, in the first instance, protection and benefit may then be given to incompetent men; but in my opinion this cannot be avoided, and in any case it cannot be worse than present conditions. Let us look at the position for a moment from another side: What is there to-day to prevent any man from setting at naught all professional etiquette, rules, etc.? He may advertise, play "ducks and drakes" with the authorised scale of charges, and if by so doing he brings discredit upon the whole body, we are impotent to deal with him. Being unattached to any society, he is beyond control.

Now, suppose for a moment that registration was an accomplished fact; that none but registered architects could use the term architect to their name; that none but registered architects were allowed to submit plans for approval to a local authority; that none but registered architects could recover fees in a court of law; that none but registered architects could act as arbitrators or give evidence in a court of law—then any man would think twice before committing any act which might entail expulsion from the register.

It is the policy of this society to invite practising architects within our area to join us, and we have met with much success and encouragement by doing so. But the mischief is done not by bona-fide men, but by the rank outsiders—untrained, undisciplined men with commercial ideas, who care not for

art or architecture for its own sake, but are out solely to make money.

With these men we, as a society, are impotent to deal, and they can only be restrained by the passing of a Statutory Registration Bill.

Some of us will not live to see the effect of such an Act, but we must fight for the benefit of our younger members—the men who fought for us when the country was in danger—and surely the experience of kindred professions who have adopted the principle of compulsory registration should assure us that registration is the right step for architects to take for the advancement of architecture and for the protection of architects.

While this is primarily our object, a secondary desire is that the public may also be protected by the measure. Perhaps we do not sufficiently realise that the lack of appreciation by the public of architecture lies at our own door. Especially in these days when the "get-rich quick" spirit so inimical to true art and good design is paramount. Our duty toward the public is twofold. We must do our utmost to produce none but high-class work, even for the humblest purposes; and we must prevent the incompetent from exploiting the public by wasting their money on buildings which are vulgar and harmful in their influence.

One of the most serious obstacles to registration is the attitude of some who need no such protection for themselves. Their work is plentiful and of the highest class, and they know little from experience of the struggle of their less fortunate brethren. But if we are to succeed there must be no opposition from within—no distinctions, and no standing aloof. Exclusiveness and jealousy within our ranks will be enough to wreck any Bill, but let Parliament see that we are in earnest—that we are determined to close our ranks against all but well-trained, suitable men, and that the profession will be conducted in a manner calculated to promote the public good, and our desire will very speedily be attained.

In conclusion, Mr. Gill moved the following resolutions:—"That the Statutory Registration of Architects is an urgent necessity.

"That the R.I.B.A., the Society of Architects, and representatives of outside architects be asked to collaborate on the draft of a Bill to be presented to Parliament at an early date." These were seconded by the vice-president, Mr. Eaton, and after full discussion were unanimously adopted by the members present.

"ADMIRALTY HARBOUR, DOVER."*

BY MAURICE FITZGERALD WILSON, M.INST.C.E.

The history of Dover dates from the Roman occupation, and from the earliest times the port was connected with the British fleet. At a later date Dover became one of the famous confederation of the "Five Cinque Ports and two Ancient Towns," consisting of Hastings, Sandwich, Dover, Romney, Hythe, Winchelsea, and Rye, which, in return for certain privileges, were required to provide a yearly quota of vessels for the King's use. In the thirteenth century the Cinque Ports were at their prime, and Dover supplied twenty-one ships for the King's service, being more than double the number furnished by any of the other ports, and this may be said to have laid the foundation of the British Navy.

In 1840 a Royal Commission was appointed to consider the question of harbours on the south-east coast, and eventually recommended Dover Bay as the most eligible position for such a harbour. Further Commissions were appointed in 1844 and 1845, and, as a result, in 1847 a commencement was made with the construction of the Admiralty Pier, and in 1871 this was practically completed for a length of 2,100 ft.

This single arm, however, not affording sufficient shelter, Messrs. Goode, Son and Matthews in 1895 were instructed to proceed with the necessary survey, and prepare designs for

the completion of the harbour, and in 1897 a contract for the whole of the work was let to Messrs. S. Pearson and Sons, Ltd.

These works comprised:—

(a) An extension of the Admiralty Pier for a length of 2,000 ft.

(b) An eastern arm 3,320 ft. in length;

(c) A detached breakwater extending between the eastern arm and the Admiralty Pier, 4,212 ft. in length.

To the westward of the eastern arm a reclamation, 21 acres in extent, was formed by means of a sea-wall 3,910 ft. in length, backed up by chalk filling derived from the adjoining cliffs.

The total area of the harbour at low water is 610 acres, exclusive of the Commercial Harbour.

Generally speaking, the works were constructed of Portland cement concrete, all exposed faces from the level of 3 ft. below low water ordinary spring tides upwards being protected by a facing of granite. The three main breakwaters were constructed with concrete blocks 6 ft. in height and 7 ft. 6 in. wide on the face, and in lengths so arranged as to give a thorough and efficient bond throughout the work. The sea and land harbour faces were battered 1 in. to the foot, except the harbour face of the east arm, which was built vertical, as it was intended for use as a quay, alongside of which vessels would lie when taking in stores, provisions, etc. In the case of the heads of the different works, blocks of special shape were of course required.

The foundations for the Admiralty Pier extension and south breakwater were laid upon a compact bed of flints and chalk marl. The outer end of the east arm was founded on similar material, the shoreward end being founded on the bare chalk. As a general rule the foundations of the work were carried from 4 ft. to 5 ft. below the surface.

Parapets were provided on the seaward side of both the Admiralty Pier extension and the east arm. In the case of the south breakwater, which was not intended to be used as a quay, no parapet was provided, though provision is made for adding it if required.

The cope level of all the works is placed at 10 ft. above high water ordinary spring tides, the width at that level being 45 ft. in the case of the Admiralty Pier, 40 ft. for the south breakwater, and 47 ft. 6 in. for the east arm. The works were all finished off with a granite cope, backed by concrete pitching laid and grouted in cement. Boat steps, ladders and bollards were provided as required.

The ballast for the concrete was obtained partly from Sandwich and partly from Dungeness, and was conveyed to the works for the most part by rail, though a considerable proportion of the material derived from Sandwich was carried by water. The cement was all manufactured in the Thames district, and was delivered by barge. The granite was chiefly obtained from quarries specially acquired and worked by the contractors at Gunnislake in North Cornwall, being delivered at Dover by sea.

Two main workyards for the construction of the concrete blocks, etc., were provided, the west blockyard being formed on the foreshore to the westward of the Admiralty Pier, the east blockyard being formed upon the reclamation already described as lying to the eastward of the east arm. The concrete was mixed in Messent mixers of 1 cubic yard capacity and then deposited in the moulds. In the case of the east blockyard, special arrangements were made whereby the mixers were mounted on carriages which travelled over the moulds upon an elevated railway, the concrete being dropped direct from the mixer into the mould. The whole of the machinery in this yard was worked electrically. The blocks after being moulded were left upon the floor for seven days before being lifted, after which they were removed and stacked ready for use. No block, however, was allowed in the work until it had been made for at least one month.

When ready for setting, the blocks were run out from the yard on block trucks, and set in the work by means of goliath cranes

travelling upon a staging spanning the work. The staging consisted of clusters of piles placed in pairs, one on either side of the work, at 50 ft. longitudinally. The piles were driven into the sea bed and securely braced. These pile clusters supported longitudinal girders, upon which were placed the service roads carrying the goliath cranes already referred to.

The excavation of the sea bed was carried out by means of grabs worked from one of the goliath cranes upon the staging, this excavation being carried down to within one foot of the final depth, the last foot being excavated by hand and carefully levelled by men working within a diving bell, this also being manipulated from the staging by means of a goliath crane. The beds having been carefully prepared, the blocks were then set by diver, the blocks being set as closely as possible and without the use of mortar, and the work brought up to low water level. From low water upwards, the blocks were similarly set but in a bed of cement mortar, the joints being grouted up solid and pointed.

HEALTH MINISTRY'S HOUSING REPORT.

The number of new schemes submitted to the Ministry during the week ended November 8 was 362, bringing the total number of schemes submitted by local authorities and public utility societies to 6,240, comprising about 49,000 acres. The total number of schemes approved is now 2,262, comprising about 23,500 acres.

House-plan schemes representing 12,712 houses were submitted, and schemes representing 12,308 houses approved, during the week, the excess over the average of former weeks being due to the inclusion of large schemes from Lancashire and the Midlands. Approval was given during the week to plans for houses in the following localities:—Manchester (2,573 houses), Birmingham (2,500 houses), Liverpool (2,000 houses), Wolverhampton (1,000 houses), Bolton (700 houses), Bilston (500 houses), Salford (450 houses), and West Bromwich (450 houses). The total number of houses included in the house-plan schemes submitted is now 56,163, and in the schemes approved 43,299.

The number of negotiations on behalf of local authorities for the purchase of sites for housing were successfully completed by the Valuation Department of the Inland Revenue up to the end of October was 1,157. The total amount asked for these sites or provisionally agreed to by the local authorities was £1,673,145. The total finally agreed by the Valuation Department to be paid was £1,264,054, showing a saving of £409,091, or 24.4 per cent. The figures on the average per acre are:—Asked or provisionally agreed to by the local authorities, £243; agreed to by the Valuation Department, £184; saving effected, £59.

OBITUARY.

Mr. Arthur Hacker, R.A., whose sudden death from heart failure occurred last week, was born in London in 1853. He studied at Paris, and made his first foreign tour through Spain and Morocco in the winter of 1881. He soon gained considerable reputation as a figure painter on old and safe lines, though he was sufficiently in touch with the newer spirit to contribute "The Cradle Song" at the first exhibition of the New English Art Club, which was established in 1886 by some of the more enlightened of his contemporaries. Many of his pictures enjoyed a very considerable reputation, and the most successful of his earlier years was 1892, when the Royal Academy included his exhibits of "The Annunciation" (now in the Tate Gallery) and his study of the nude "Syrinx" (purchased by the Manchester City Art Gallery). Two years later Mr. Hacker was made an A.R.A., and his election as a Royal Academician followed in 1910.

At a general assembly of Academicians and Associates held last Wednesday night, Mr. Mark Fisher, A.R.A., painter, was elected a Royal Academician.

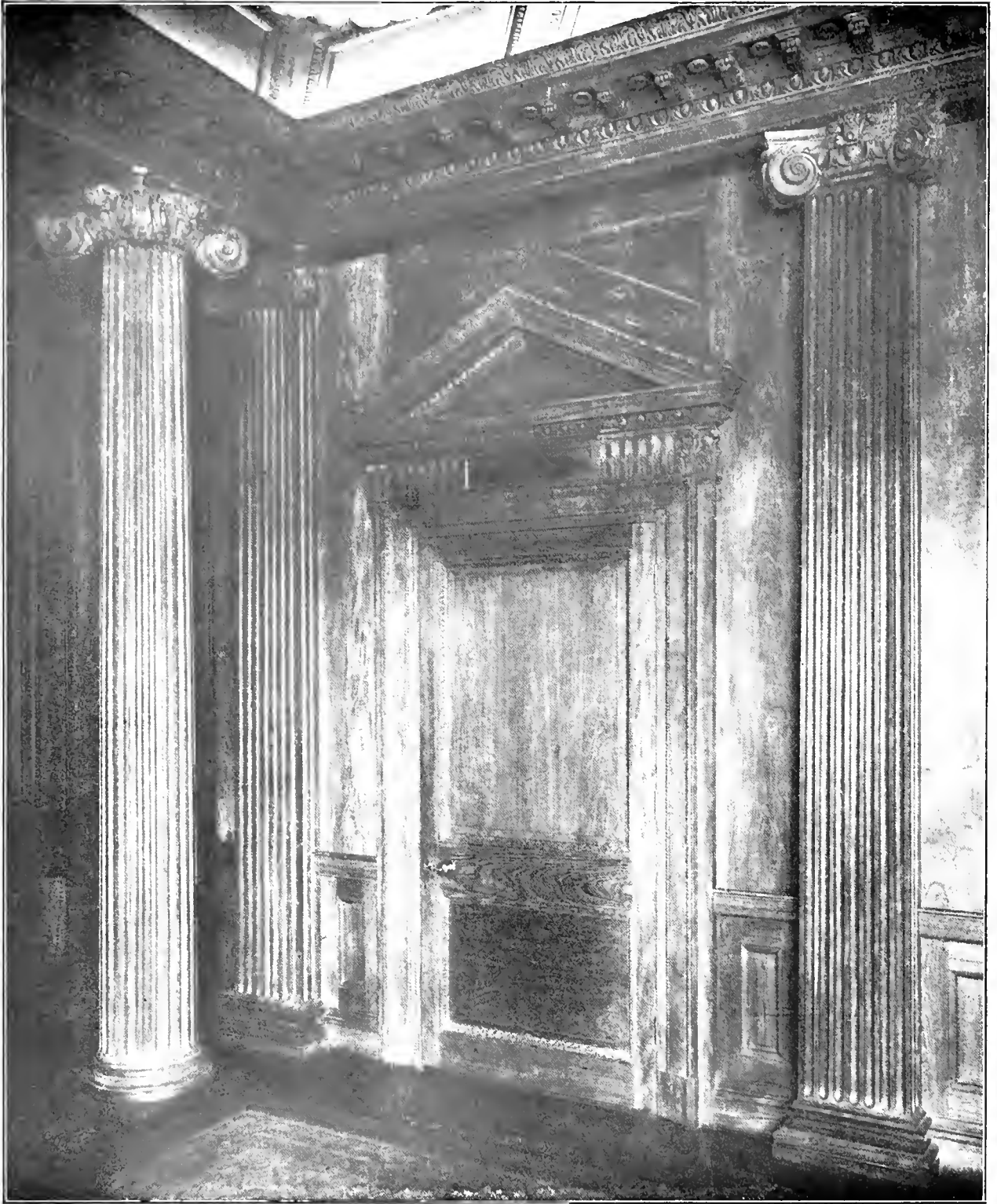
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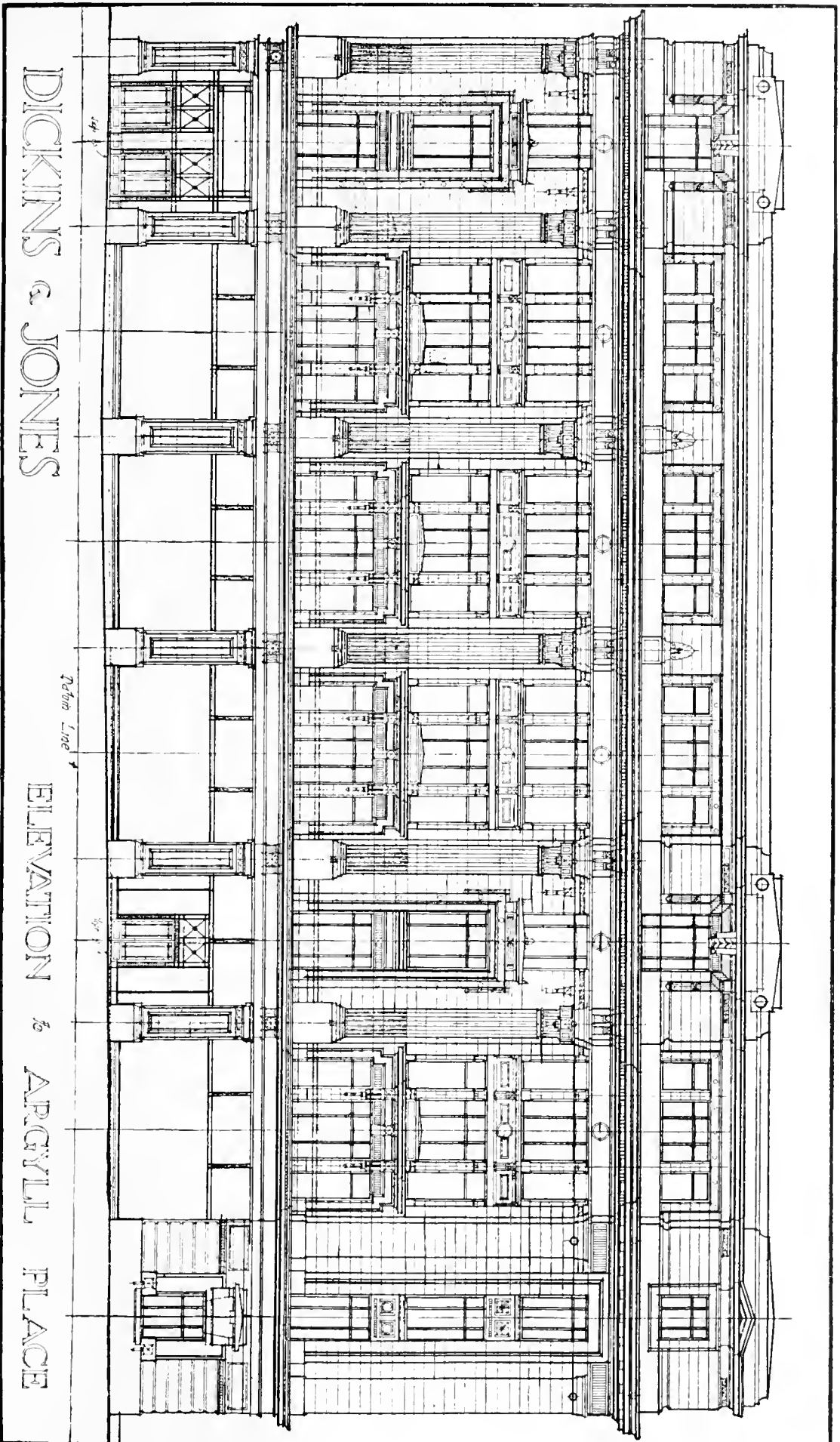
THE DRAPER CHANTRY, SOUTH CHOIR
From a Water-Colour by Mr. JAMES E.



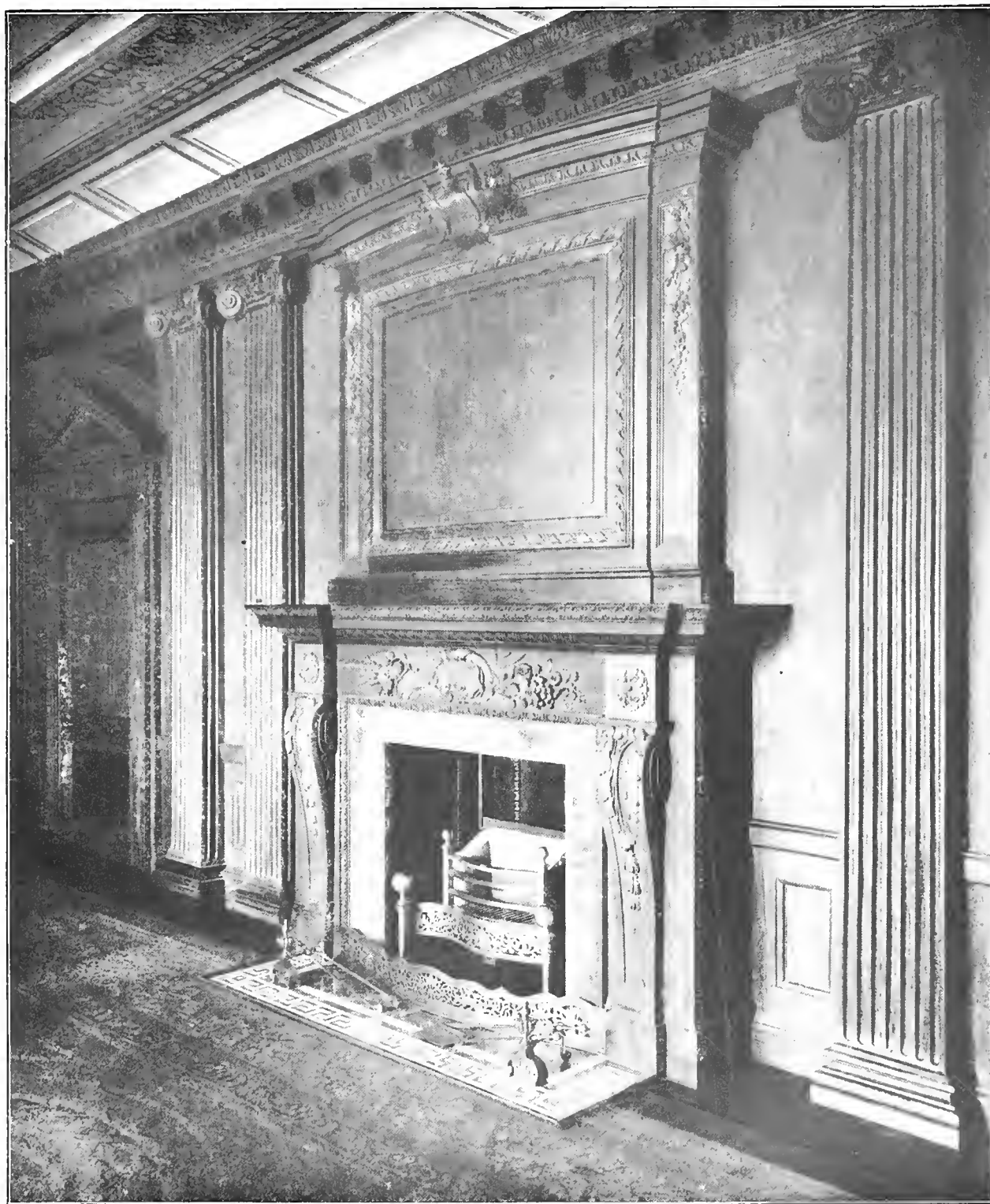
S.E., CHRISTCHURCH PRIORY, HANTS.
S.O., at the Royal Academy, 1919.



THE HIGH COMMISSIONER'S ROOM, AUSTRALIA HOUSE, LONDON.
Messrs. A. M. MACKENZIE, LL.D., A.R.S.A., and A. G. R. MACKENZIE, Architects.



Messrs. HENRY TANNER (Sir HENRY TANNER, C.B., I.S.O., HENRY TANNER, F.R.I.B.A., and E. J. TANNER, A.R.I.B.A.), Architects.



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Building Intelligence.

ROSEWELL.—An institute and hall intended for the use of the inhabitants of Rosewell and neighbourhood has been opened. The building was erected from plans by Mr. James McLachlan, architect, 24, Charlotte Square, Edinburgh. The front portion of the building, in which Doddington stone has been used, comprises the entrance hall, a reading-room and library, and a billiard room and games room. A hall to accommodate 750 persons is also provided, as well as a caretaker's house.

UGANDA CATHEDRAL.—The consecration of the Cathedral Church of St. Paul, Namirembe, Uganda, took place on September 13. This is the fourth church to be erected on the summit of Namirembe, and the second cathedral, the first being consecrated in 1904. It was however, struck by lightning in 1910, when the roof entirely collapsed, and it was ultimately found necessary to rebuild the walls also. The new cathedral has been built from the designs of Professor Beresford Pite, and is capable of seating at least three thousand people. The design is simple—cruciform—with a great dome in the centre, supported by four massive stone pillars of local sandstone—this is the first time stone has been used for building in Uganda—and the remainder of the pillars and the walls are of burnt brick. The choir is enclosed by six beautiful screens, which, together with the altar and reredos, are the work of apprentices from Maseno High School.

COMPETITIONS.

LEAMINGTON SPA.—The design submitted by Mr. T. Llewelyn Daniel, A.R.I.B.A., of 204, Cranbrook Road, Ilford, Essex, has been chosen for the war memorial to be erected at Leamington Spa. The referee was Mr. H. V. Ashley, F.R.I.B.A. There were 26 designs submitted, and the premiums were £100, £50, and £25. The winners of the second prize are Messrs. J. R. Leathart and E. B. Webber, 35, Canterbury Road, S.W., and the third prize was awarded to Mr. J. Harold Hughes, A.R.I.B.A., 7, Queen's Road, Aberdeen.

FOXENDEN QUARRY, ALLEN HOUSE GARDENS, GUILDFORD.—In the competition recently held for the lay-out of the above estate as a public park and pleasure grounds, the plans submitted by Mr. H. Ascroft, Licentiate R.I.B.A., Ivy Lodge, Spencer Road, Mitcham, London, S.W., have been placed first. The site is one of great natural beauty, including the bowl of an old and long-disused chalk quarry, which is converted into a Japanese garden. The bandstand will form the centre of a natural theatre, other features being a Pyrus Avenue, a formal garden and lily pond, tennis courts and bowling green.

STATUES, MEMORIALS, etc.

LINCOLN.—Owing to the unpopularity of the original proposal to erect an obelisk, etc., on the Cornhill as a war memorial, the committee entrusted with the project have provisionally agreed upon another form of memorial, and a fresh site—the Sessions House grounds. Sir Reginald Blomfield is the author of the design. On the base, 22 ft. square, is to be a column surmounted by a bronze symbolical figure of a female representative of Victory. The figure is shown supporting with one arm a wounded soldier, while the other arm holds outstretched a laurel wreath. The height from the ground to the top of the statue is to be 33 ft., and the figure itself will be 14 ft. 6 ins. It is estimated that the cost will be about £6,000.

At a meeting of the Corporation of Nottingham on Monday it was decided to purchase land at an estimated cost of £150,000 for the extension of the Guildhall buildings. The scheme involves the demolition of the Mechanics' Institution, for which another site is to be secured. It is estimated that the new Town Hall will cost £500,000, and will bring about a concentration of the municipal offices, which are now dispersed in various parts.

PROFESSIONAL AND TRADE SOCIETIES.

INAUGURATION OF EDINBURGH ROMAN SOCIETY.—The inaugural meeting of a new Edinburgh Roman Society was held last Friday evening. The Society's object is to form a link between the more advanced students and ex-students of the University and scholars in the city, and to bring to their notice any new results of classical research or new methods of teaching. Papers are to be followed by discussion, and the subjects will include literature and textual criticism, archaeology and art, and, indeed, all branches of Roman or Latin studies. Miss G. M. Steuart, M.A., is secretary; Mr. J. F. Mountford, M.A., treasurer; Professor Richmond, president. It is proposed that the meetings should be held fortnightly, and usually on Friday evenings. Professor Richmond gave a brief address on an underground Basilica of a secret cult, presumed by him to be probably of an Orphic nature, which has recently been excavated beneath the main railway line near the Porta Maggiore at Rome. This building, dating from the first century A.D., is of the deepest significance for Christian origins, and is decorated with a striking series of stucco designs.

LIVERPOOL ARCHITECTURAL SOCIETY.—The Liverpool Architectural Society, last Monday evening, through their council, entertained, at the Reform Club, the fifty-seven local members of the profession who have returned from service overseas, forty of them being officers or non-commissioned officers. The president (Mr. T. Taliesin Rees) presided, supported by ex-presidents, and about one hundred architects were present. The President, in proposing "Our Guests," said the Liverpool architects who served overseas fought for their fellow-architects and for those who were near and dear to themselves; they fought for right against might and wrong, and they helped to win. He coupled with the toast Lieut.-Col. S. P. Morter, D.S.O., and Major Frazer, M.C. Lieut.-Col. Morter, responding for all who had fought, said that while the president was one of the few Welsh architects in Liverpool, he himself commanded a Welsh battery in the war. He found them brave fellows, wonderful both as singers and fighters. Major Frazer also acknowledged the toast. He said that when he put down the drawing board and tee square and went to fight he had plenty of work, which four friends undertook to finish for him. They completed the work and declined to accept fees from him. To the end of his life his most valued possession would be the sword with which he was presented by his fellow-architects. The president read a telegram of salutation from the president of the Royal Institute of British Architects, who stated that the gathering "symbolised the reunion of the architectural profession and the beginning of new activities." The toast of the sender of the telegram (Professor J. W. Simpson, president R.I.B.A.) was musically honoured and a suitable reply despatched. In silence, the toast of "The Boys Left Behind in France" was honoured. Among the fallen heroes was Captain Matthew Honan, the donor of £1,000 for the foundation of the travelling scholarship which has been associated with his name. Lieut.-Col. Beckwith and other speakers followed, and the toast of "The President and Council of the Liverpool Architectural Society" was drunk with enthusiasm.

Professor Dr. A. E. H. Swaen, in the Amsterdam *Nipholoos*, announces the discovery of a new portrait of Milton, which is now in the Museum for History and Art at Amsterdam (Rijksmuseum).

Belfast is to erect 5,000 houses, and 1,500 of these as soon as possible. The houses are to be constructed in four different types, ranging from houses with one living-room and two bedrooms to two living-rooms with three bedrooms, and baths; 17.9 houses are to be erected per acre, in groups of two and four, with gardens. The houses are expected to cost about £600 each, and be let at less than 10s. per week. Should the scheme be carried out as at present intended, it will not involve any expenditure from the municipal rates.

PARLIAMENTARY NOTES.

HOUSING.

Dr. Addison, on Monday last, replying to Mr. Grattan Doyle, said:—The number of houses included in contracts on which work had actually been begun up to November 1 is 682 in the Metropolitan area, and approximately 4,700 in the rest of England and Wales. The monthly White Paper contains full information of the progress made by the various local authorities. The latest return shows that 1,270 local authorities have submitted definite proposals. The number of houses which have been completed is insufficient to enable me to give any useful figures as to the average rents. The Housing Act received the Royal assent on July 31, and under the Act local authorities were given three months within which to submit their schemes. This period of three months expired on October 31, and I propose to enforce the measures prescribed by the Act in the case of those local authorities which are in default. I should like to add that in respect of information sought for on Thursday, and which I regret was not given, the number of houses which have been completed ready for occupation is 124. Sir S. Hoare: Is it the fact that not a single house will be completed in the County of London before the end of the year? Dr. Addison: I think that is correct, but several conversions of buildings have been carried out and the flats occupied.

Dr. Addison, asked by Mr. Stieh whether his attention had been drawn to the case of J. T. Fairley, a married man with five children, who was evicted from his home in Pelaw Grange Terrace, Chester-le-Street, and, being unable to obtain other accommodation, was compelled to sleep in a vestry whilst his family were dispersed; whether he was aware that a son came home from the Army to find that there was no home; and whether he would make representations to the owners of the house from which Fairley was evicted—namely, the Harraton Colliery Company—with a view to this man being found accommodation, said:—I have received a letter from Mr. Fairley calling attention to his case. I regret that under the present law I have no power to intervene in such cases as these. I am doing whatever I can in all the cases that are reported to me to prevent people being turned out of their houses where there is no alternative accommodation.

Mr. Bonar Law, in answer to Mr. Clynes, said it was proposed to discuss the housing question at to-day's sitting.

CHIPS.

It is proposed to erect a War Memorial Chapel at St. Botolph's, Bishopsgate.

The Office of Works has informed the London County Council that it views with alarm the proposal to construct a tramway in Hyde Park, and before coming to a decision desires to consult the Minister of Transport on the subject.

Mr. Frank O. Salisbury is preparing for Wall-sall Town Hall two panels, representing the attack of the 1st South Staffordshires on the Hohenzollern Redoubt and the storming by the 5th South Staffordshires (Territorials) of the St. Quentin's Canal.

Mr. Walter H. Brierley, of 13, Lendal, York, has taken into partnership Mr. J. Hervey Rutherford, who has been with him as chief assistant for eighteen years. The title of the firm will henceforth be Walter H. Brierley and J. Hervey Rutherford.

For the purpose of carrying out its housing scheme, the Surliton District Council has agreed to borrow from a friendly society the sum of £20,000 at 5½ per cent. interest, and this was the only offer of loan received in response to the council's inquiries.

The Baltic Memorial will take the form of a large stained-glass window on the north side of the Exchange. Underneath will be two tablets recording the names of all who have made the noble sacrifice. The estimated cost will be between £3,000 and £9,000.

A housing report presented to Norwich City Council states that the approximate date of completion of the scheme is:—Angel Estate, 147 houses, Christmas, 1920 (approved); Mile Cross, Aylsham Road, 300 houses, Christmas, 1922 (site approved); Harford Estate, 433 houses, Christmas, 1923; Earlham, 300, Christmas, 1924.

At the last meeting of Selkirk War Memorial Committee there was considered a design of a war memorial prepared by Sir Robert Lorimer. The memorial consists of a bronze figure and bronze tablets, upon which will be inscribed the names of Selkirk's dead heroes. The cost is estimated at £3,500. The design was passed unanimously.

Our Office Table.

The Ministry of Labour has not yet ratified the decision of the National Conciliation Board, arrived at on November 4, by which the wages are to be increased by 2d. in the case of mechanics and 3d. in the case of labourers, the new rates to commence as from Saturday last. This decision was duly communicated to the Ministry of Labour for ratification, but the Ministry has referred the matter to an interim Court of Arbitration sitting today for further advice. A special Council of the Federation of Building Trades Operatives is also to be held to-night, and in the meantime the men are being advised to "carry on."

"Scientific Factory Management" and "Factory Management Waste," the former by A. D. Denning, M.Sc., etc., and the latter by James F. Whiteford (London, Nisbet and Co., Limited, 22, Berners Street, W.1, 12s. 6d. each), are two books on kindred subjects that may be read concurrently with profit to all. The first embraces a comprehensive treatment of business management on a scale varying from that of the moderate-sized factory to the largest industrial undertaking. The second is a constructive and not merely critical exposition of our present problems of industrialism, and the author's own twenty years' successful practical application of the principles he advocates is a satisfactory guarantee of their soundness.

At a meeting of secretaries of building societies in South Staffordshire and East Worcestershire, held at Wolverhampton, Mr. J. B. Annan (Wolverhampton), who was appointed secretary and treasurer pro tem, referred to the housing problem, and said the Government did not seem to have solved this at all satisfactorily. He doubted whether any full solution was possible without the assistance of building societies and builders, who had provided 90 per cent. of the housing up to this time. The Government seemed to have excelled itself in successfully ignoring the very people and organisations who had done the real work in the past. It was a remarkable thing that building societies were still able to obtain money very much more cheaply than the Government itself, and if the Government had utilised building societies he had no doubt they would have been able to meet the situation. A resolution to protest against the Government's neglect to utilise existing organisations under the housing scheme was unanimously adopted.

A writer in *L'Outillage*, according to an abstract thereof by *La Nature*, given in the *Technical Review*, mentions the following methods for rendering walls and reservoir structures waterproof:—Add 600 gr. of Japanese vegetable wax to 60 gr. of quicklime dissolved in from 14 to 15 litres of boiling water. This preparation, mixed with 100 gr. of Portland cement, gives a paste which can be ground up after drying. Cement can be waterproofed by the addition of 10 per cent. petroleum oil immediately after mixing, but the only difficulty arising out of this method is that the time taken for the cement to set is almost doubled. An effective method for treating reservoir walls already cemented is to coat the wall surfaces with a 20 per cent. solution of paraffin wax in gasoline. Another method is to damp them with soapy water, then after about twenty-four hours to pass a solution of sulphate of alumina over the walls. By repeating this operation several times perfect results are said to be obtained.

Some interesting observations were made at a meeting of the Luton Rural District Council regarding the alleged cheapness of houses at West Derby, Liverpool, as contained in a newspaper report in September, stating that a Liverpool firm were building concrete houses for as low a figure as £650. The article was read by members of the rural council during the meeting, and it was de-

cided to reply that Luton is building houses with the same accommodation at a very much cheaper rate. In an interview the council's surveyor (Mr. Pickering) said that the council are laying cottages built in the village of Sandon, Beds., to the requirements of the Local Government Board, with living room, scullery, bathroom, and three bedrooms, for £400. They are building brick cottages with a similar accommodation for £580, whereas the Liverpool figure apparently does not come lower than £650. For the concrete cottages bricks are being used.

After a romantic career the old Rochdale Market Cross, which was pulled down about a century ago, has been given back to the town by Mrs. Cryer, of Castle Hill. The cross stood in Lower Gates on a plot of ground in front of which an ironmonger's shop is now situated. At the beginning of the nineteenth century some "frolicsome" spirits pulled it down and it was never again re-erected. Indeed, for many years, it passed from the public ken, and was ultimately found embedded underneath a footpath in Goose Lane (a lane which entered the present Manchester Road between the Castle Inn and Tweedale Street) when Manchester Road was constructed. A resident, who at that time lived at Willow Bank, set it up in his garden, and eventually he gave it to Mrs. Cryer's father, and it has been preserved in her garden for many years. Only the top part of the cross now remains. It will probably be set on a new shaft and restored to something like its original appearance. The Art Gallery and Museum Committee have expressed their thanks to Mrs. Cryer for returning this ancient landmark to the keeping of the town.

Prehistoric remains recently unearthed in Wiltshire, about two miles removed from the famous Avebury Temple, have been deposited at the British Museum for expert examination. The discoveries comprise portions of a human skeleton belonging to the Neolithic period, a very perfect specimen of a flint spear-head, and fragments of a crudely ornamented urn composed of a red ware. The remains were found at a depth of only three feet, in a bed of chalk flint, resting in river drift. The skeleton is apparently that of a diminutive individual of unknown sex, probably about 4 ft. 6 in. in height, and very muscular. The teeth are in an excellent state of preservation, and show marked canine characteristics. The most interesting feature, however, is the upper portion of the skull, which shows a very low type of development.

Mr. R. Jones, the Welsh quarrymen's secretary, has been chosen as a Labour candidate to oppose Mr. Lloyd George at Carnarvon at the next election.

As a result of heavy seas, half the tower of Dunwich Church was brought down last Friday and fell into the sea. The rest of the old building is doomed, as the cliffs are falling on each side of it.

The bulk of the money subscribed for the memorial to Admiral Lord Beresford will be devoted to the welfare of men of the Royal Navy and the Mercantile Marine. A general committee will decide the form of the personal memorial.

We are glad to note that the motion to refer back the recommendation of the L.C.C. General Purposes Committee to reinstate no "conscientious objectors" in the Council's service was defeated by 75 votes to 45, and that the recommendation was adopted at Tuesday's meeting.

The Road Board, in an appendix to their ninth—and last—annual report, urge the creation of a new authority to prepare a comprehensive planning scheme for the whole of the London dock and riverside area, and commanding sufficient financial resources to carry through any plans for development and improvement which may be found necessary.

Captain Richard Reiss, who delivered the Chadwick Public Lecture at Hampstead last Monday evening on "Suburbs or Satellites?" said the housing problem could not be solved by improved transport facilities, because this only resulted in still further building on the outskirts, in more factories developing, and, after a short time, in transport congestion becoming worse than before.

LIST OF TENDERS OPEN.

COMPETITION.

Dec. 8.—To architects in practice in Northumberland, Durham, and Yorkshire only. For a War Memorial to be erected at West Hartlepool on the site of a new public square. Mr. Ernest Newton, R.A., assessor. Conditions on application to Mr. Roger D. Lambert, hon. sec., Municipal Buildings, West Hartlepool.

BUILDINGS.

Nov. 25.—For 16 houses for the working classes on Penchanton Road, Bangor.—W. G. Williams, Diocesan Buildings, Bangor, North Wales.

Nov. 25.—For 35 houses at Tomswood Hill, Barking-side. For the Ilford Urban District Council.—Tenders to A. Partington, clerk, Town Hall, Ilford.

Nov. 26.—For 14 houses (in two contracts, one for six houses and one for eight houses) at Chesham.—For the Chesham Urban District Council.—Tenders to the Clerk of the Council, High Street, Chesham.

Nov. 27.—For 66 houses.—For the Bexhill Corporation.—Tenders to T. E. Rodgers, town clerk, Town Hall, Bexhill.

Nov. 27.—For 132 houses at Leamington.—For the town council.—Architects, Crouch, Butler, and Savage, 67a, New Street, Birmingham. Tenders to L. Rawlinson, town clerk, at the Offices, Leamington Spa.

Nov. 28.—For 66 dwellings on the Fordhouse Farm Estate, King's Heath, Birmingham.—For the Housing Committee.—Tenders to F. T. Cox, housing director, Council House, Birmingham.

Nov. 29.—For 28 workmen's dwellings at Radcliffe, Lancs.—For the Radcliffe Urban District Council.—Tenders to S. Mills, clerk, Council Offices, Radcliffe.

Nov. 29.—For houses in the district of Spalding.—For the Spalding Rural District Council.—Architect, W. St. L. Crowley, 32, Hall Place, Spalding. Tenders to A. K. Maples, clerk, Spalding.

Dec. 1.—For 12 houses in Buckingham Road, Bicester (being the first portion of a scheme for 55 houses on the same site).—For the Bicester Urban District Council.—H. W. Smith, M.S.A., 57, High Street, Oxford, architect.—Tenders to F. Hudson, clerk, Council Offices, Bicester.

Dec. 1.—For 10 houses in London Road, Bishop's Stortford.—For the Bishop's Stortford Urban District Council.—Builders' names to the Clerk of the Council.—Drawings, specifications, and conditions of contract have been prepared by H. J. Chetwood, A.R.I.B.A., and may be seen at his office, 5, Bedford Row, London, W.C.

Dec. 1.—For alterations to Denton Holme Schools.—For the Education Committee.—H. C. Marks, M.I.C.E., surveyor to the Education Committee, 36, Fisher Street, Carlisle.

Dec. 1.—For 12 houses at Hucknall.—Tenders to P. Woodward, clerk, Hucknall, Notts.

Dec. 1.—For erection of the first 100 houses on the Somerton Estate, Newport, Mon.—For the Housing Committee of the Newport Corporation.—Tenders to A. A. Newman, town clerk, Town Hall, Newport, Mon.

Dec. 1.—For erection of two pairs of cottages at Kelvedon and one single cottage at Cressing.—For the Small Holdings and Allotment Committee of the Essex County Council.—Tenders to J. Stuart, F.R.I.B.A., City Architect's Office, Chelmsford.

Dec. 3.—For 64 houses at Adwick-le-Street; 28 houses of type No. 4; and 26 houses of type No. 1.—For the Adwick-le-Street Urban District Council.—Tenders to G. Gledhill, Surveyor.

Dec. 3.—For 36 houses on one site in the town of Hungerford.—For the Hungerford Rural District Council.—Tenders to H. D. O. W. Astley, clerk, Hungerford.

Dec. 8.—For houses on building sites in the parishes of Alcechurch, Stoke Prior (sites at Shaw Lane, Stoke Pound, and Finsall), Pedmore, and Wythall.—For the Bromsgrove Rural District Council.—Drawings and specifications prepared respectively by T. Grazebrook and T. Robinson, architects, Stourbridge, and Harvey and Wicks, architects, Birmingham.

Dec. 8.—For police cottages at High Wych, Harmer Green, Watton-at-Stone, Bayford, Hertford Heath, Bishop's Stortford, King's Langley, Northchurch, Pirton, Sandon, and Weston.—For the Standing Joint Committee of the Hertfordshire County Council.—Tender to J. S. Killeck, M.I.C.E., county surveyor, Hatfield.

Dec. 8.—For 78 houses of various types, and sewer construction and road making in connection therewith, on May's Estate, Connaught Road, Teddington.—For the Teddington Urban District Council.—G. H. Salmons, clerk, Elmfield House, Teddington.

Dec. 8.—For 43 houses.—For the Little Hulton Urban District Council.—Tender to J. H. Heyes, clerk, Council Offices, Little Hulton.

Dec. 13.—For houses for the Frome Rural District Council.—Five, Buckland; 8, Faulkland; 6, Leigh; 24, Mells; 24, Highbury; 4, Haydon; 6, Nunney; 4, Road.—J. A. Benyon, architect, Nunney Road, Frome.—Tenders to W. R. Kent, clerk, Public Offices, Frome, Somerset.

Dec. 18.—For erection of 20 houses at Oswestry.—Messrs. Berrington, Son, and Watney, Prudential Chambers, Wolverhampton, and 4, Memorial Hall, Oswestry, architects.—Tenders to C. H. Bull, clerk, Rural District Council Offices, Oswestry.

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Currente Calamo.

The Emergency Committee of the London Master Builders' Association met on Monday and decided, having regard to the fact that the Ministry of Labour has intimated that ratification is not necessary, to recommend the members to pay the amount awarded—namely, an increase of 2½d. for craftsmen and 3d. for labourers. This will settle the dispute—for the present, we suppose! The trouble is that, whatever wages are paid, the men will not work, nor will they allow others to do so. The shortage of labour in the building trades is phenomenal, but still the old tale is told that building is one of those trades which cannot do with a large surplus of labour to meet a purely temporary demand; and in view of the seasonal character of the trade, proposals aiming at increasing the number of workmen in the trade will be frustrated and can't canny will go on. To-day the workman's output is, at its best, only two-thirds the pre-war standard, and that is the principal cause of the increase in cost of all building. His attitude was pretty well embodied during the heckling Dr. Addison got at Manchester when one delegate suggested that as the Government conscripted people to take life during the war they should conscript master builders to build houses with the object of saving life. "Ah," said Dr. Addison, "that is an interesting question. But it is not the master builders who do all the building. What about the workmen? Do they want to be conscripted, too?" There was no reply to that question!

Long before the houses are built we expect the lawyers will be busy deciding—or rather differing, as usual, according to the idiosyncrasies of judges and magistrates—as to what is a "best rent." At a sessional meeting of the North Wales Centre of the Sanitary Inspectors' Association held on Friday last at Rhyl, in the course of a discussion Mr. George Bevan, chairman of the Colwyn Bay Council, said a difficulty might arise in the North Wales resorts with regard to the Government's requirement that authorities who built small houses should let them at the best rent obtainable. There were people who patronised the coast

resorts who would be willing to give big rents for small cottages—rents which the working-class people could not afford to pay. If the local authorities were required to let for the best rent obtainable, the new houses would be taken by people who could afford to pay well for them, and the working classes would still be unprovided for. But if the houses were let to *bona-fide* working men at rents within their means, then in the course of a few years the Government might say, "You have let your houses much cheaper than you need have done, and you must yourselves bear the difference between the rent you could have got from the better-class tenant and what you have had from the working-class tenant." Other speakers followed. One said that the "best rent obtainable" was the rent receivable from houses of similar accommodation in a given part of the country. Another asked whether the councils were entitled to refuse the wealthy applicant for a cottage in favour of the workingman. A third thought there was no question about their being entitled to do that. If that is so, the position of the middle-class taxpayer will be increasingly aggravated by this preference for one class of the community at the cost of the rest.

In an able letter in last Monday's *Times*, Dr. A. P. Laurie slates the Board of Trade officials whose work it is to license importers, and under whose administration British manufacturers will be brought still nearer bankruptcy if the Anti-Dumping Bill passes. He gives two instances, zinc oxide and lithopone, as an example. There are three pigments suitable for white paint—white lead, zinc oxide, and lithopone. Before the war zinc oxide was largely imported from America, and the Government encouraged its use in place of the poisonous white lead. There is, Dr. Laurie says, one small factory in this country, and one small and one large factory of lithopone, which was largely manufactured and imported from Holland. What is the result of presenting this monopoly to one firm? Before the war lithopone was sold at a little over £9 a ton. To-day it is £40 a ton. The linoleum manufacturers have begged to be allowed to import lithopone. The Board of Trade officials admit it should not be on the list, say they cannot imagine how it got there, but pro-

hibit, and it appears again in this Bill. "The British merchant," says Dr. Laurie, "will have to spend even more of his time than to-day hanging about the corridors of Whitehall and standing luncheons to officials. The whole thing must lead to the worst forms of graft, which would make even a Russian official of the old régime blush. When," Dr. Laurie asks, "will the men who made the money which won the war, the British manufacturer and British trader, rise up and stop all this bureaucratic legislation by men who could not run a wheel-stall on the Mile End Road at a profit?"

The Increase of Rent Act, 1915, is slowly getting itself construed and understood. It was passed as an emergency and hasty measure to protect the smaller tenants from their evicting landlords. It now seems that it is also able to protect them from themselves. In the recent case of "Hunt v. Bliss," the High Court has just held that the Act applies not only where a landlord gives notice to quit and seeks possession of the premises, but also where a tenant gives such notice, and then, changing his or her mind, decides to stay on and plead the Statute. The facts showed that the defendant tenant, a lady, had given two quarters' notice to quit in March last. Plaintiff, as her landlady, accepted this, and then obtained a purchaser for the house conditional on giving possession on Lady Day. Then the defendant changed her mind and would not go; so plaintiff sued for ejectment in the County Court. The judge then cut the knot neatly by holding that the Act did not apply, as the tenancy no longer existed, so giving the plaintiff an order for possession. But two High Court judges have now held, even more neatly, that a new statutory tenancy began when the notice to quit expired to which the Act applied! They further ruled that the tenant was to be protected even though she gave notice herself. They also decided that, as the sale by plaintiff was only conditional, and there would be no liability on her for damages, it was not a "satisfactory ground" within the meaning of the Act for making an Order. No doubt this is all good law and logic. The result is that the tenant still holds over and the landlady pays the costs. But it may be that these litigating ladies have not yet done with the case, which

may now go further, up to the Court of Appeal.

With reference to the Education Board's Circular 1128 of August 26, 1919, we are informed that the Government have decided that the rebate of 33 1-3 per cent. on the price of huts purchased by Local Education Authorities by private treaty from the Surplus Government Property Disposal Board shall be retrospective, so as to cover all cases in which the purchase was completed on or after April 1, 1919. In the event of any such purchase having been made by the authority between that date and August 26, 1919, it should, unless they have already done so, now inform the Board of Education of the particulars of the transaction, in order that the Board may furnish the necessary authority for the allowance of the rebate. A question has arisen as to the amount of discount which may be allowed to Local Education Authorities in respect of huts purchased by them for educational purposes at public auctions held under the authority of the Surplus Government Property Disposal Board. The Board's Circular 1128 of August 26, 1919, contemplated that Local Education Authorities would normally avail themselves of the privilege which had been accorded to them of purchasing huts by private treaty, but it is understood that it may, in some instances, be more convenient for them to bid at auction. In view of the additional cost to the Exchequer of disposing of surplus stores at public auction, His Majesty's Government are unable to grant the full rebate which would be allowed in cases of sale by private treaty, and it has been decided that huts so purchased should be sold to Local Education Authorities at a discount of 25 per cent. It should be understood that the Local Education Authority will be required to pay the full auction price to the auctioneer, and that the discount will subsequently be refunded to them by the Disposal Board, D.B., 1C., Artillery Mansions, 75, Victoria Street, London S.W.1, to whom the claim for repayment should be addressed, together with an indication that the Board of Education has approved the purchase. The arrangements indicated apply likewise to public institutions of higher education aided but not provided by a Local Education Authority.

We regret to learn that, imperatively ordered by his medical advisers to take three or four months' complete rest, with the view of overcoming diabetic trouble, Mr. J. W. Simpson, the president of the Royal Institute of British Architects, is compelled to forego his work at the Institute, which will be carried on by the senior vice-president, Mr. Walter Cave, till Mr. Simpson is again able to carry on. We are sure Mr. Simpson will have the sympathy of all our readers, and that the activities of the R.I.B.A. will not suffer by reason of any lack of co-operation on the part of its members, and that all will await Mr. Simpson's recovery with the warmest wishes that it may be speedy

and complete. Mr. Simpson had arranged a series of visits to the Allied Societies, and was booked for the Northern Architectural Association on the 19th, for the Birmingham Association on the 21st, and for the Manchester Society on the 26th. These engagements have had to be cancelled, but the visits will be paid as soon as Mr. Simpson's health permits.

SUBSIDISED HOUSES.

The new Housing Bill is not yet introduced, but Dr. Addison's utterances since last Friday, and his Circular 39, with its two appended leaflets, issued last Friday to the local authorities, leave us more in doubt than ever whether he has, even now, the faintest grasp of the problem before him. His slanging match with Lord Downham has made it clear to the general public that the Government was primarily to blame for its non-recognition at the start that any prompt action was impossible till the adequate financing of the scheme was ensured. In the second place, it is extremely probable that the intrigues of people inside and outside the Government aimed at the prevention of Mr. Hayes Fisher's succession to the Presidency of the Local Government Board, were during his two years of office further directed to the discouragement of the work the old Department might have carried on, but which it was determined should be absorbed into the new Ministry of Health.

Be that as it may, when Dr. Addison came on the scene did he really take any steps to find out what the scheme would cost? If he did, he must have known that the Government would have to find the money. Does he himself really believe that his £150 subsidy will suffice? We doubt it. He has since told us that "In a few days a very attractive scheme will be put forward which will provide for local municipal investments." It will certainly not do so unless it offers inducements to investors quite incompatible with cheap building. It will certainly not reduce the cost of properly built houses.

The proposed subsidy of £150 is certainly insufficient—more so than ever now, for the new wages scale will absorb the whole of it, and the builder will have to pass the increased cost on to the buyer somehow. But suppose he can build a house for £650—say by using "porous bricks good for ventilation," or supplying "egg-boxes," as one of Dr. Addison's hearers called them last week. At present rentals his return on the £500 net cost, after deducting rates, repairs, and incidentals, will be at most £15 a year—that is, 3 per cent. on his outlay. Will that totally inadequate return induce many men to devote time, labour and capital to a purely commercial operation?

A better plan, if subsidies are really to be had recourse to, would have been first to (1) abolish the taxes on land values; (2) repeal the Act restricting rents; (3) encourage the builder by a subsidy of, say, £25 a year for five years; (4) limit, and, as soon as possible put an end to, the operations under the new Housing Bill, if passed. It would be better if it were not passed at all. The present high cost of building will probably be decreased in, say, five years, but in the meantime the builder should receive some help. After the five years he must take his chance, and if he is able to charge a fair economic rent he will probably be prepared to do this.

If the State is to build houses at a big loss, the process will be camouflaged through all its stages to keep the Government and its tribe of hangers-on in office, and the delays and blunders of officialism will hinder the best-intentioned efforts, as they have done hitherto. The ambiguities of Circular 39 and its appendices are so many that, even when benevolently construed by the officials, time will be wasted and disputes certain. Supervision seems little likely to be exercised in the face of such loopholes as are left in paragraph 9, where the local authority is warned that it must be "no vexatious," and that "reasonable variation from the plan," or the use of other material, will be tolerated if houses can be built more rapidly or at lower cost. The New Bill, we fear, will give us little information about many things which may expedite its working or may wreck it. We are told by the Press Association that "After the Bill has been passed it will probably be found necessary for detailed regulations to be made to govern the payment of the subsidy, and these regulations will be made by the Ministry of Health in collaboration with the Treasury." And about a good many other things, we expect, of which Parliament will have been left in ignorance, and with regard to which the Ministry of Health has been left free to bungle as it has done since it took over Housing!

THE ROYAL SOCIETY OF BRITISH ARTISTS.

Back in its old home in Suffolk Street, whence it was driven by the Government, the Royal Society of British Artists holds its 152nd exhibition in the familiar galleries, which have been redecorated with considerable taste, especially the large central one, in which the pictures show to decided advantage.

The exhibition is perhaps hardly one of the best, and some of the worst are very poor, but there are not a few well worth notice. Mr. Solomon J. Solomon, R.A., the new President, has three—"On My Studio Roof" (197), "A Portrait Study" (225), and "Barbaric Beads" (228), the last decidedly the best. Mr. Alex. Maclean, the Vice-President, sends two of his always appreciated moonlight scenes, "The Moon Hath Raised Her Lamp Above" (190) and "In This Hour of Softening Splendour" (305). Mr. Hely Smith is perhaps at his best in "A Land Breeze" (203), though of his other three subjects, "Sketch for Lat. 48.0 N." (193), will not lack admirers. Mr. Cyril Roberts sends three interesting portraits, "Miss Evelyn Hope" (58), "Jane in Grey" (169), and "Lieut. W. G. C. Gladstone, M.P." (176). Mr. Charles Ince is happily fortunate with all his three contributions, "A Fen Sailing Punt on the Ouse" (53), "Old Houses" (67), and "Reparation" (90). Mr. Robert Morley's "Mort pour la Patrie" (184) is good, and so is his "After Sundown" (263).

Mr. W. E. Riley, F.R.I.B.A.'s "Little Grey Chapel of Arne" (31) is a charmingly rendered little gem, and his "Watering Place" (39) and "A Dorset Bay" (85) are worthy successors of the many seaside scenes he has pleased all with, and many more which his now greater leisure will enable him to reach and reproduce with the aid of the presentation trophies of the kindly regard of his staff at the L.C.C., which last Friday it was his pleasant duty to acknowledge. Mr. J. Muirhead is equally attractive with "A Grey Day" (146) and "Port St. Catherine, Bruges" (185), and his

two other contributions, "The Old Town, Hastings" (50) and "On the Sussex Coast" (73), will not be overlooked. Mr. Francis Black's two renderings of "Taly-Van" (186 and 191) are excellent, and "Under the Downs" (262) only less interesting.

Mr. Barry Pittar sends four more of his remarkably able perspectives, of which we have given several lately, and which have impressed our readers so favourably with his vigorous but withal architectural fidelity. "Dinant" (7) is good, and so are "Boulogne" (151) and "Rouen" (154); but "A Glory of the Past: Rheims" (157) is one of the most faithful memorials of the great church that has been achieved as yet, or probably will be. Mr. A. Carruthers Gould is at his best in "The Vale of Porlock, Somerset" (183), and sends as well a nice "Surrey Landscape" (340).

Among others that will please are "The Intruder" (174), by Mrs. Madeline Wells; "Spring in England" (208), by Mr. Francis Barry; "A Flask of Wine and—Thou!" (234), by Mr. Otway McConnell; "The Golden Moon" (229), by Mr. J. W. Schofield; "Old Darkie" (214), by Mr. E. A. Cox; "Sea Urchins" (209), by Miss Dorothea Sharp; "Snow on the Foreshore" (194), by Mr. Charles Simpson; "The Letter" (202), by Mr. Denys G. Wells; and "The Stubble Field" (205), by Mr. Harry Fidler.

HEALTH MINISTRY'S HOUSING REPORT.

New schemes submitted to the Ministry during the week ended November 15 numbered 146, bringing the total number of schemes submitted by local authorities and public utility societies to 6,342, comprising about 53,000 acres. The schemes approved now number 2,408, comprising about 24,300 acres. Among new schemes is a large one submitted by the London County Council, and relating to a site of 3,000 acres at Dagenham. The County Council propose to acquire another site of 250 acres, at Bellingham. House-plan schemes representing 4,633 houses were submitted during the week, and schemes representing 5,019 houses approved. The total number of houses in the house-plan schemes submitted is now 61,470, and in the schemes approved 48,294. Tenders have been approved for 10,403 houses. Fifty-nine local authorities have made application for war-service structures with a view to their conversion into dwellings. The number of huts and other buildings proposed to be acquired for this purpose is about 2,000. Procedure for the compulsory acquisition of land for housing purposes has recently been considerably shortened, and the number of orders submitted by local authorities for confirmation by the Ministry has increased. On November 18, 111 orders had been submitted and 61 confirmed. The Ministry have information that a further 23 orders have been made, but not yet submitted, and that in 36 other cases the local authorities have the making of orders under consideration. The orders already confirmed relate to land comprising 1,773 acres. The above figures relate solely to cases in which orders have been made by local authorities for the acquisition of sites for the erection of new houses. Orders have also been made in London for the compulsory acquisition of 190 houses with a view to their conversion into flats. These orders have been made by the London Housing Board.

Mr. E. R. Pratt, of Ryston Hall, Norfolk, complained last week at the quarterly meeting of the Royal English Arboricultural Society that woodland owners were getting next to nothing for wood, which in some cases had taken generations to reach maturity. He should like to know what home-grown wood was being used for. He was told it was being used in the manufacture of flappers' silk stockings and for wooden hats.

Our Illustrations.

THE "EADIE" MEMORIAL PULPIT, CONGREGATIONAL CHURCH, WITHINGTON, LANCs.

This memorial pulpit, destroyed by fire during the war, was designed, with the choir stalls and organ case, by Mr. John Swarbrick, F.R.I.B.A., of Messrs. Joseph Swarbrick and Son, Manchester. The sculptor was Mr. Albert Toft, of London. The pulpit was executed chiefly in Caen stone, together with other carved work on each side, which was seen in conjunction with it. The illustration only shows the central part of the work referred to. White onyx, with light-coloured veins, was used in the back of the pulpit, and at the front, in the panels beneath the projecting canopy. Gold and other mosaic tesserae were inlaid in narrow strips in the onyx. The crown was of copper-gilt. This photograph of the pulpit was exhibited at the Royal Academy during the summer this year.

A SUSSEX COUNTRY HOUSE.

This drawing appeared in the Royal Academy Exhibition this year. Mr. W. S. Willan, of Canterbury, is the architect. The proposed building was designed with the object of re-using a large amount of old material, and in working out the scheme a simple and straightforward plan has been aimed at, as shown by the layout figured in the margin of the perspective of the entrance front.

THE "GOOD SHEPHERD": A STAINED-GLASS STUDY.

This drawing, by the late H. W. Lonsdale, speaks for itself. The subject often done on less decorative lines lacks the dignity here obtained, although the artist's main object in making this study was to perfect the lines of the draperies before carrying out the cartoons for this window to which it belongs. We gave examples of Mr. Lonsdale's work in our issues of October 31, November 6 and 14. Others will appear at an early date.

THE VICARAGE, PARISH OF ST. JOHN, SOUTHEND, LEWISHAM.

A double-page illustration, giving the plan, elevations, and sections of this South London proposed church appeared in our issue of September 26 last. The architect, Sir Charles A. Nicholson, Bart., also lent us the working drawings of the new vicarage house for the same district, and these we publish to-day. The present church, which has served for the hamlet of Southend, will become the Parish Room. The undertaking, of which we gave some few particulars when illustrating the church, is to take the form of a thank-offering of the Lewisham deanery.

A RIVERSIDE COTTAGE AT BRAY-ON-THAMES.

This illustration, giving a sketch view as well as plans, elevations, and section, is self-explanatory. The cottage has a landing-stage and a slipway for boats conveniently forming part of the site. The chief feature of the plan is a large central parlour opening on to a verandah facing the river, where the frontage is over 100 ft. in extent. Mr. Edgar Ranger, of Gerrard's Cross, is the architect.

The Atherstone District Council decided last Tuesday to ask the Ministry of Health whether they would be prepared to sanction a scheme of offering free sites to prospective owners of houses, in addition to the Government subsidy of £150 per house, on the land the council had already purchased.

THE MANCHESTER SOCIETY OF ARCHITECTS.

The following is from the President's Address, by Mr. Isaac Taylor, F.R.I.B.A., at the opening meeting of the session, on Oct. 8, 1919. It only reached us on the 21st inst.

I do not propose to make a very long speech to-night, but I feel that this is an occasion when a few of the more prominent matters affecting architects should be touched upon. The first and most important of these is, I suppose, the National Housing. I expect many, if not most, of us are getting tired of this topic, but at the risk of being tedious, I will briefly summarise what the Manchester Society has done. Several months ago a special meeting was called when I outlined to the members the scheme in which we were invited to co-operate. The president's committee, meeting weekly, has had the scheme in hand, and up to the present time the five estates being purchased by the Manchester Corporation at Gorton, Rusholme, Clayton, Newton Heath and Wilbraham Road and the one estate purchased by the Prestwich District Council, have been laid out under the chairmanship of members of the president's committee and 75 architects have been appointed to co-operate in the erection of the houses. The selection of architects was a difficult and obviously an invidious task. There are many men who may rightly feel that they have at least equal claims with those selected to have been appointed, and I want to express my appreciation of the way those who have not got these appointments have behaved, for I have not heard a single seriously meant adverse criticism on our selection. I know we have tried to act fairly and impartially and unselfishly, and I know we have failed as much as any other human agency is bound to fail in doing all we set out to do.

Very likely many architects as well as many of the public are wondering when they will begin to see some of the results of all this organisation, and when the houses will begin to be built. I do not think the delay has been the fault of the architects this time, but when you consider that each scheme has got to go before several committees and that in each scheme there are many stages to be submitted for approval, you will realise that there must be periods of waiting, and when tenders are obtained the terrific prices almost compel reconsideration, even of the most economical schemes, to see what further reductions can be made. We hope, however, that building will soon be in progress on most of the estates, and that the part that the society has taken in the scheme may be proved to bring Manchester to the premier place in the country for the excellence of her housing as for her other obvious virtues.

I may say that this scheme in Manchester is being watched with great interest by architectural bodies all over the country. The Council of the R.I.B.A. is keenly interested, and we have had to explain the scheme to several of the allied societies who hope to get similar schemes to work in the areas.

Possibly one of the most useful results to architects on the Manchester housing scheme will be the practical illustration of the possibilities of co-operation. We have tried as far as possible to pool ideas and to act together, and I trust that this lesson will react on our future relations together, so that we may come into a real federation of architects free from all jealousies and bitterness, and that we shall be equally ready to cover up each other's weaknesses and extol each successful achievement.

The question of the Piccadilly site seems at last to be likely to be solved. A noble art gallery would seem to be the most fitting peace memorial for the city. There has been a strange fatality about the site, which probably holds the world's record for abortive competitions. When early this year the scheme for building the art gallery was brought forward the Council wrote to the Corporation expressing the hope that no definite steps should be taken in the appointment of an architect until the Army was more nearly demobilised. The Corporation cordially fell in with the view, and so far

no definite steps have been taken. Now that most architects are home again we shall soon hear something. I think that many of us feel that the usual form of competition for a large public building is unsatisfactory. I remember my father telling me of the architect to whom in his younger days he was assistant, who was successful in many large competitions. He came to the office one morning not quite satisfied about his chances of success in the last big scheme he had submitted in competition. He left the office early in the day, and when he came back in the afternoon rather flushed he said, "I think it's all right now, but it took the dickens of a lot of port wine." Competitions have improved a great deal since then, but they are an unfair tax on the profession. Absurd examples may be quoted where the number of competitors is so great that the cost incurred by them collectively would equal the actual cost of the building to be erected. Can some other way be found?

The results taken generally are not so manifestly successful as to warrant the continuation of such a cumbersome method. We do not want to lose the opportunity for unknown genius to come forward, which is the great argument in favour of the present system.

If Manchester could find a solution in her art gallery she would, indeed, earn fame, but whatever the method, we hope that the coming year may see the beginning of a building worthy of the site and worthy of the city.

A very hopeful sign is the filling up of the empty desks in the School of Architecture. The School has just kept going during the war, but now there is a good rally of students. This, no doubt, is partly due to the wide action of the Government in instituting the training grants for demobilised men whose training was in progress, or not yet started, when the war broke out. Candidates for the grants are being interviewed weekly by the Board of Architects and Surveyors.

I may briefly say that the usual sessional papers are being arranged for the winter months, at which I hope we may have good attendances and real helpful criticisms. We hope to have papers from Sir Ambrose Poynter, Mr. J. Hubert Worthington, Major Gilbert Fraser, and an exhibition of house plans and lay-outs by the president's committee.

In the years that are in front of us we are looking into a strange future. On reading over my notes, I seem to have been writing as if we were going to go on just as before, but we know that it is not so. We are busy drawing out buildings the cost of which we have no idea of. We let contracts perhaps knowing that rises in prices will make the final settlement bear even less reasonableness to the contract than ever before. We do not know whether we can get labour to complete what we have begun. We have had statistics shown us proving that the country cannot make enough bricks for a percentage of the buildings that are wanted; that if the houses that are required for decent living are built they will take all the bricks that can be supplied. Everywhere is unrest, strikes, lock-outs and upheavals. The country is without money, and we go on spending more and more on luxury and amusements. So great is the change that I feel myself that we must begin over again, that all we have learnt belongs to the past, and that during this time of change we must reconstruct our ideas and ideals.

History has always been recorded in architecture. How shall we write in bricks and stones the history of the next decade?

Councillor Barrett, a Labour member of the Bermondsey Council, by trade a builder's labourer, was killed last Friday by falling from a scaffolding at Messrs. Pink's jam factory in the borough.

Liverpool Corporation is seeking Parliamentary sanction for the laying of a fourth line of pipes from Vyrnwy Lake, Montgomeryshire, to the corporation reservoirs at Prescott, a distance of 63 miles, and also for considerable alterations in the levels of portions of the third line, at a combined cost of probably £5,000,000. The aqueduct will run through six Welsh and English counties.

THE SURVEYORS' INSTITUTION.

(PRESIDENT'S ADDRESS.)

(Continued from page 329.)

THE FOSTERING OF THE CORPORATE SPIRIT A VITAL NECESSITY.

Thanks to the foreseeing wisdom of our founders, and of that long line of distinguished men who have served on our Council and occupied this chair, and by no means least to our indefatigable Secretary and his predecessor, the emergency finds us in a strong position as an Institution, well equipped both as regards organisation and buildings, and, what is more important, imbued with a strong corporate spirit.

These, however, are times of rapid change, and we must be prepared to advance with them or run the risk of being left behind. I should like therefore to devote the rest of my Address to laying before you one or two suggestions as to where we might do well to consider the advisability of change.

The objects of the Institution as laid down by our founders call for no change. They might have been formulated in the present critical times. The spirit of self-abnegation and devotion to public duty with which they are imbued is the only spirit in which the country's problems can be solved. Nor need we seek to attain those objects by any other means than our founders had in view. Any change in our policy and constitution for which the present situation may call, will be of an evolutionary and not a revolutionary character.

The services which the Institution will be called upon to render will be identical in character, only the need for them will be greater. During the transitory period of rapid legislation perplexities will arise which call for frequent conference and interchange of ideas. We have all the machinery for this in the ordinary meetings of the Institution, in the meetings of the Provincial Branches, and in the pages of our *Professional Notes*. I shall have occasion to refer to these matters later, but should like to say here that members by availing themselves of these opportunities will be doing much toward fostering the strong corporate spirit which is the vital necessity of our Institution. Nothing can foster that spirit so effectively as the whole-hearted participation by members in all the activities of the Institution.

I have already expressed the hope that in the period which lies before us the Legislature and Government departments will avail themselves more fully of the resources of this Institution. The Council have always been conscious that many exasperating mistakes could have been avoided in the past if departments had consulted them more frequently with regard to matters affecting our profession. Indeed, it was with this very object in view that the Provincial Branches were first established. Sir John Oakley gave so clear an account of their origin in his opening address that it is not necessary for me to dwell upon this point. They form now a definite part of our organisation, and have rendered valuable assistance to the Council in its work. Their status was strengthened by the Council's invitation to their chairman to act upon the Standing Committees. This was a wise step, for, in order that the Provincial Branches should efficiently fulfil their functions, it was essential that their executives should be in direct touch with the Council. The question arises whether, in the face of the greater demands which are likely to be made upon this organisation, the consolidation might not be carried a step further. It has been suggested that the Provincial Committees should take their part in the nomination of members for election upon the Council, and that the franchise for the election of members on the Council should be changed to a territorial basis. This is not the time to enter upon a detailed discussion of the proposal, but it is one that merits very careful consideration.

I have referred to the proposal because it is directed towards what appears to me two great needs of the time, namely:—

- (1) A closer relation between the Council and the Provincial Branches;
- (2) A closer relation between individual members and their executives.

The importance of the first point I have already emphasised. It is a subject which has frequently engaged the attention of the Council of late.

The second point I refer to the more freely, because I do so with the conviction that the Institution has been well served by its Council. While the individual members of the Council may from time to time have felt the desire for a clearer idea of the sense of the profession, they have generally succeeded in voicing the views of the vast majority of the members. The point I wish to make is one that must have occurred to many when Sir John read his opening address at the beginning of last session. In dealing with the growth of the Institution, he drew the contrast between the first years of the Institution's history when there were only 200 members, all of whom were known to and by the members of the Council, and to-day, when the membership has increased to about 5,000.

To-day with our huge membership roll such a state of affairs is out of the question, but it should be possible to hit upon some arrangement by means of which all the members of the Institution might make acquaintance with at least one of the members of the Council. Under present conditions, practically only the senior members of the profession are known to the members of the executive, and there is a considerable margin comprising a very large proportion of the younger and rising men whose power of affecting the constitution or the policy of the Council is confined to the marking and addition of names to the nomination papers which they receive year by year. I am aware that on paper the rules governing the election of members of the executive are thoroughly sound and democratic. The point is that the responsibilities of the ballot-box are seldom thoroughly appreciated, and unless the interest in elections is stimulated by the admission of the objectionable system of soliciting votes only a comparatively small proportion of the members will take active part in the election. Whether this state of affairs could best be remedied by abandoning the present method of nomination in favour of one based on a territorial or sectional franchise I am not prepared to say at present, but the point is one which I commend to members for their consideration. I would repeat that the thought has been prompted by no sense of failure on the part of the Council; rather the other way, the very merits of the Council tend to increase the danger which I wish to avoid. It is a danger which attends the growth of any big institution, and that is that if the executive do their work well, unless the executive is in touch with all the members as the membership grows, an increasing proportion of the members become apathetic as to their activities. Once let such a state of affairs come about, no matter how sound the executive may be in its deliberations or how wise in its actions, it will suffer a loss of power in proportion to the extent to which that apathy has gone. Perhaps I should put it another way and say that the more intimate the relations between the executive and the members the greater the power with which it acts and speaks. I think I may say that this is a belief which is shared by all the members of the Council to-day. It was voiced by my predecessor in this chair in his opening address when he repeatedly emphasised the importance of fostering the corporate spirit amongst all the members of the Institution. I believe we have that corporate spirit to-day, and if there is any apathy it is confined to a small percentage of members only, but that the danger to which I have referred is there there is no gainsaying. I have great ambitions as to the proud place this Institution is to take in the councils of our country, ambitions which I believe are shared by the vast majority of the members. Fostering these ambitions we do well to run no risk.

I should like now to turn to the Ordinary Meetings of the Institution. I think I have said sufficient to show how much importance I attach to these meetings, for the facilities they afford both for discussion of important questions of the day and for the active expression of the composite life of the Institution.

The very high level of Papers and the

good attendances which have been maintained generally at the Ordinary General Meetings are in themselves indications that the value of these Ordinary Meetings is appreciated by a considerable percentage of the members of the Institution. It is doubtful, however, whether the importance of the meetings has been fully realised by all the members. These meetings should serve two very important ends. Firstly, they should provide an opportunity for discussing, and for the interchange of ideas upon, pressing matters of the day with which our Institution is most intimately concerned, and, secondly, they afford the opportunity for social intercourse amongst members which could be secured in no other way. It would be a difficult thing to say which of these functions is the more important; to my mind they become of increasing importance as the years go by. Reference has already been made to the increasingly technical character of our work. With this development there comes an increasing need for study on the part of the surveyor to keep abreast of his work. Important cases are decided in the Courts, text-books and monographs are published. Reports and books are purchased for reading, but the busy man who is heart and soul in his work has little time for reading. At the Ordinary Meeting the subjects are presented in a concise form in the Papers, and in the discussion that follows the minds of those present are stimulated to think out problems in a way that would only be possible to a very select few in the quiet of their homes or offices.

It has also been suggested that the Papers might be similarly introduced at the Provincial meetings, and that the report of these discussions should be included in the Transactions of the Institution. The suggestion is one which I would commend to the Provincial branches for their consideration.

It would serve the double purpose of extending the opportunities for discussion of the important subjects with which the Papers deal, and add to the interest of the Provincial meetings the importance of which has been so frequently urged.

If this suggestion is adopted, it should be possible to arrange for summarised reports of the discussion of the Provincial meetings to be included in the Transactions of the Institution.

Time will not allow me to say much about the opportunities of social intercourse which the Ordinary Meetings provide. I would particularly urge its importance upon the younger members of the Institution. I have already referred to the great benefit I derived in the early years of my career from constant intercourse with older members of the profession. Here at these meetings you have the opportunity of making acquaintances and friendship that will stand you in good stead all through your lives, and the older members will equally hold it a privilege to mix with the younger members.

For the profession as a whole these meetings do a real service in eliminating the narrowness which is one of the chief dangers of the age of specialisation.

EDUCATION.

The last matter to which I propose to refer to is Education.

Education in its broadest sense is the very bed-rock of the whole conception of the Institution. The idea of the founders was that it should be a meeting-ground where the older members could foster the best traditions of the profession, and where the members, old and young, could meet and by the free interchange of ideas increase their knowledge of the subjects with which they have to deal.

In the remarks that follow I propose, however, to confine myself to the subject of the education of new candidates for the profession.

It will be difficult for many of the younger men to realise the amount of prejudice which had to be overcome before the examinations were adopted as a test of fitness for membership, and I imagine there are few now who would question the assertion that the examinations have done great service in raising the general standard of efficiency of the profession. None the less many of those

who opposed had good reasons for their opposition. With examinations there is always the danger of cramming, and the further danger that a youngster having once satisfied the examiners and, after the necessary period of office experience, secured his election as a professional associate, will rest on his laurels, and imagine that he is fully competent to deal with any business, no matter how complicated and how important the issues at stake. I imagine no one will appreciate the dangers more fully than those who undertake the coaching and preparation of students for the examinations.

Much can and, I may add, has been done to meet this danger by the gentlemen who act as examiners in framing their questions in such a manner that they can detect the man who has not a really intelligent grasp of his subject.

It would be interesting to discover the various roads by which members enter the profession. Some will have entered their fathers' businesses and worked their way through its various branches; others will have been articled to some firm or another; while others will have commenced on the clerical staff of some office, and prepared for the examination in their spare time. Amongst this last class probably there are many who will make the best surveyors, and are most deserving of encouragement, but it is true that frequently these have had the least opportunities of real experience. Moreover, the opportunities of experience of those who take out articles depend entirely upon the firms to whom they are articled, and the amount of interest that the principals take in them.

The question arises whether we as an Institution cannot do more for them during the period of training.

What or how much we can do I am not prepared to say at present.

The point I should like you to consider is whether it is not desirable that all candidates should become definitely associated with the Institution at least one year before they sit for their examination. Whether they register as students or otherwise is a small point. It would probably be necessary to alter the rules relating to this clause so as to embrace all candidates. Having made them register, it will be necessary to do something for them. We might find it necessary to appoint a registrar for the work, who would be thoroughly conversant with the needs of and openings in the various branches of the profession. He would thus be in a position to advise candidates as to the section for which they should enter, and as to where they should go for their training, etc. The kind of man I have in mind would fulfil some of the functions of the dean at one of the colleges of our older Universities. A man who without actually attempting any teaching would help to direct the students in their studies and be able to watch their progress. This, I think, would be in itself a big step forward. I am aware that there are a considerable number of the younger members who have grateful recollection of the great help they have received in this way from our secretary. The possibility of obtaining help and advice in this way, however, has occurred only to a few. Unless we can rope them in, there is likely always to be a considerable number struggling on without proper advice and guidance. In course of time such an officer would be in a position to help us in deciding what further steps might be taken towards improving the education of our candidates.

There is one other point. It is a small matter, as the numbers concerned are few. The Forestry Act was passed at the end of the last Parliamentary session, and a central Forestry Authority has been set up. I should have liked to have been able to urge that the authority should accept our Special Diploma as a qualification for officers of the higher grades under the new authority. I am not sure that this is practicable. The authority quite rightly stipulate an advanced technical training such as the Universities alone can provide. We are not a teaching institution, and cannot hope to compete with the Universities in this respect. At the same time I am quite certain that, at any rate for the officers

in charge of large forest areas, it is equally, if not more, important that they should be trained surveyors.

In this connection I might perhaps be allowed to mention the University Scholarships which the Institution provides. Forestry is certainly a subject which the Council would be prepared to recognise and I would suggest that men wishing to qualify for positions under the new authority by academic training would do well to enter for those scholarships.

I cannot sit down without once more voicing my deep appreciation of the great honour conferred upon me by the members of the Institution in electing me their president, or without assuring them of my anxiety to do everything in my power to further the interests of the Institution during my term of office. I should also like to thank you, gentlemen, for your presence this evening to listen to my opening address.

ROYAL ACADEMY OF ARTS.

In his final lecture to the students of the Royal Academy School, Professor Laurie dealt with the subject of building materials. He began by pointing out to the students that they were entering on their professional duties at a time of exceptional interest, owing to the crisis which had arisen in the building trade, and which was due to the combination of several factors. The policy which had been pursued by the Local Government Board through the Building Acts over a long period of time had resulted in stereotyping the methods of building and discouraging the inventor, so that there had been less progress in this industry than in any other. Owing to the demand for houses on the one hand, caused by the cessation of building during the war, and the increase in the cost of labour on the other hand, the accumulated result of this policy in the past had led to the present crisis, and the only hope of solution lay in allowing the same freedom in this industry as existed in other industries for the inventor and the enterprising builder to develop new ideas. As far as could be judged, the probable solution of the problem lay in the direction of using concrete much more freely than in the past as a building material. The only possibility of bricks competing with this method of construction lay in the direction of replacing the bricklayer by a brick-laying machine. It was necessary, therefore, to look into all possible materials that could be utilised for concrete construction, using that term in its widest sense—that is, the combination of an aggregate with a suitable cementing material.

Having dealt with the manufacture, properties and methods of testing Portland cement, and the scientific principles underlying the preparation of the cheapest and strongest concrete, he then went on to show that there were other possibilities for the preparation of useful cements which might be used for cottage building. He dealt with the large quantities of gypsum in this country, which, in the form of plaster of Paris, makes an excellent cement for internal construction. He pointed out that blast furnace slag, if granulated by running into water and then ground with a certain proportion of lime, made an excellent cement which had certain defects which could doubtless be overcome. He also mentioned the natural cement that we had in blue lias limestone deposits, and the improvements that could be made upon it, and on the possibilities of making a sufficiently strong cement by grinding together lightly burnt clay and lime, and introducing into that a certain proportion of Portland cement.

In conclusion, he pointed out that the investigation of new building materials had to go side by side with the investigation of new methods of construction. Many people feared that these new materials and new methods of construction would result in bald and ugly buildings, but he had no doubt that as the new technique developed, new possibilities of artistic construction would reveal themselves, and that we were at the beginning of a new epoch in architecture of the greatest interest.

LONDON ASSOCIATION OF MASTER DECORATORS.

A meeting of the Council was held at the offices of the Secretary, 14, Queen Victoria Street, London, E.C., on Thursday, November 13 1919, at 2.30, with a large attendance, and the discussion was of an interesting character. In the absence of the President, Sir Charles Allott, the Chair was occupied by Mr. W. Stewart-Greene.

The Minutes of the last meeting were read, confirmed and signed. Consideration was then given to the nomination of officers for the ensuing year. The following names were put forward to be submitted at the Annual General Meeting as being recommended by the Council:—

President: Mr. C. E. Campbell. Vice-President: Mr. A. Andrews, Captain Stewart Liberty, Captain Cabuche, Messrs. Fabian Trollope, F. W. Loasby, Croft Smith, A. L. Robertson, and J. de Jong. Treasurer: Mr. T. S. Rowden. Council: Messrs. Bennett, Lee, Bull (Paddington), Peacock, Croke (Finsbury), Mellier, Gomer, Gregory, Litchfield, Bessant, Candler, Cayley, Deacon, Freeman, Fry, Giles, Higgins, Jennings, Lott, Milton, Norman, Nicholson, Rhind, Redmond, H. Williams, Watson, J. P. Williams, Wise, White.

Mr. Campbell said that he considered it a great honour that his name should be put forward for the Presidency of the Association, and if the nomination was confirmed at the Annual General Meeting he would do his very best for the Association. It would, however, be advisable for him to state clearly what they were up against in electing him to that important position. He was of the opinion that the Association must render itself very much more active and responsible than it had done in the past. The whole Association needed increased vitality.

It was agreed that the Annual Meeting should be followed by a dinner, and that invitations should be sent to various eminent architects, surveyors and others, including leading master decorators, who were not at present members of the Association.

Mr. Cecil Campbell, Captain Cabuche and Mr. Stewart Greene were appointed to arrange the details.

The Secretary then brought forward the interim report on scientific management and reduction of costs appointed by the Industrial Council for the Building Industry.

Mr. Candler moved, and it was unanimously agreed, that the report should be circulated among all the members of the Association.

The question of overtime was then considered. A letter was read from Messrs. John Barker and Company on this subject.

Captain Cabuche, in supporting the letter of his firm, stated that he had applied to the Master Builders' Association for a permit for overtime, and after considerable trouble obtained it with an intimation that in future cases such permits would not be given unless his firm became members of the Master Builders' Association. His reply was that he did not intend prejudicing the London Association of Master Decorators. He afterwards found that the builders would not amalgamate with this association, but would only accept individual members. Personally, he was in favour of some form of amalgamation, say, for example, that the fee of 9d. in the pound on the wages be paid to the builders on the building work only, and not on the decorative work; that suggestion might solve the problem. He thought it was vital to the members that they obtain permits without a pistol being held at their heads, and thought that the subject of amalgamation should again be considered.

Mr. Godfrey Giles was also strongly in favour of amalgamation with the builders on suitable terms.

Mr. Cecil Campbell said that the builders had distinctly refused to amalgamate, and would only accept individual membership. The present condition was a deplorable state of affairs; surely, he said, the London Association of Master Decorators was powerful enough to remove this scandal. He thought

that matters might be assisted if a Member of Parliament would put a question on the subject to the Minister of Labour in the House.

Mr. Loasby said that on approaching the Minister of Labour the first question that would be asked was: "Do you support the Labour Exchanges?" (Cries of "Yes.")

Mr. Nicholson gave a case where he applied for a permit for overtime of two hours a day for five days a week and received a very curt reply of refusal.

Capt. Cabuche expressed the hope that the first act of the new president would be to call a committee to approach the London Master Builders' Association with a view of an amalgamation being effected on the terms already outlined—namely, the payment of a fee on the building work done and not on the decorative work. This was agreed to, the appointment of such committee being left to the incoming president.

The next subject to be considered was the rate of pay. The secretary read a statement showing that the Board of Conciliation had recommended the following rate of pay to go into force as from November 15, 1919:—

	s. d.
Tradesmen, excepting painters	1 11
Tradesmen, excepting painters	1 11½ per hour
Painters	1 10½ per hour
Labourers	1 8 per hour

This decision to endure for nine months from November 15, 1919, subject to the present variation in different grades continuing. The rate to be advanced 1d. per hour all round on May 1, 1920.

The secretary observed that this finding had not thus far been ratified, and suggested that the advanced wages should not be paid until such ratification was received.

Capt. Cabuche moved, and it was seconded and carried, that the Association agrees to pay the new rates of wages recommended by the Conciliation Board as soon as it is ratified. (The secretary was instructed to circularise the members accordingly.) At the same time the Council wishes to record regret that the London Association of Master Builders and the Operatives Federation failed to consult this Association before arriving at the new rate of pay.

Mr. Campbell thought that in view of the increase of wages the Association should give some lead to its members as to what advance should be made in connection with work in hand and estimates which were out, but not accepted.

Mr. Loasby moved, and it was seconded by Mr. de Jong, that in consequence of the advance in the rate of wages, members were recommended to charge an increase of 12½ per cent. on the balance of all work in hand and on estimates submitted but not yet accepted. Considerable discussion ensued, and on a vote being taken the resolution was declared carried.

The Secretary reported the result of an interview with a certain firm of paint and varnish manufacturers with reference to what was thought to be objectionable advertising, and read a letter from the firm in question which purported to explain the position. It was agreed that the letter did not improve matters, and it was ordered to lie on the table.

A letter of thanks was read from the Australian Imperial Force regarding facilities to men to gain experience in the painting trade.

Messrs. Lott and Son reported as to some arbitrary action recently taken in connection with the workmen, and the meeting then adjourned.

The following letter has been addressed to the members.

Dear Sir,—I beg to inform you that a recommendation by the Conciliation Board to make the undermentioned increases in the rates of pay has been submitted to the Minister of Labour for ratification.

I am informed to-day that the matter is being carefully considered by the Minister, and that this Association will be consulted before any ratification takes place.

At a meeting of the Council held on the 15th inst., I was instructed to inform you that until any change in the existing rate has been so ratified by the Minister you are requested to regard 1s. 8d. as the standard

rate, and to make no deviation therefrom until you are further advised by me.

In the event of the ratification taking place, it is probable that the increase will be retrospective, and the Council feel that in that case you will be justified in adding 12½ per cent. to any work in hand and on estimates sent out but not yet accepted.—Yours faithfully,

A. DAVIDSON,
General Secretary.

LIVERPOOL ARCHITECTURAL SOCIETY.

SIR CHARLES RUTHEN'S HOUSES.

Sir Charles T. Ruthen gave an address on Tuesday evening before the Liverpool Architectural Society on the lines of that delivered to the Society of Architects, a full report of which appeared in our issues of October 17, 24, 31, and November 7, and which are being built by the Modern Homes Construction Co., Ltd., of Castle Street, Swansea, from whom all particulars of cost, etc., can be obtained. Drawing special attention to the rapidity with which timber-frame dwellings can be erected, Sir Charles gave details of the experiment which he has carried out at Newton, near Swansea, three houses of that type having been completed on a site which three months ago was covered with grass. One of these houses was fit for occupation within a month from the commencement of operations, and although economy was a secondary consideration, Sir Charles said the outlay worked out at £125 less than would have been involved in a brick structure. It was an example of typical American construction adapted to British tastes, the timber being coated with cement.

Sir Charles remarked that although more than twelve months had elapsed since the signing of the armistice, and although the entire resources of the State had been directed towards the solution of this grave national problem, he supposed it would not be incorrect to state that the output of houses during that period had not reached the output of twenty-four hours of private enterprise before the war. That was to say that certainly less than 250 houses had been completed since November 11, 1918. Sir Charles expressed grave doubts as to whether the subsidy of £150 to the builder would achieve anything at all.

SUBSIDIES BAD IN PRINCIPLE.

An interesting discussion followed the address. The President (Mr. T. T. Rees) said he regarded subsidies as bad in principle. There was only one way of getting work done properly—that the man who carried it out should get a profit out of his labour, and in the building of houses that could only be secured by an economic rent.

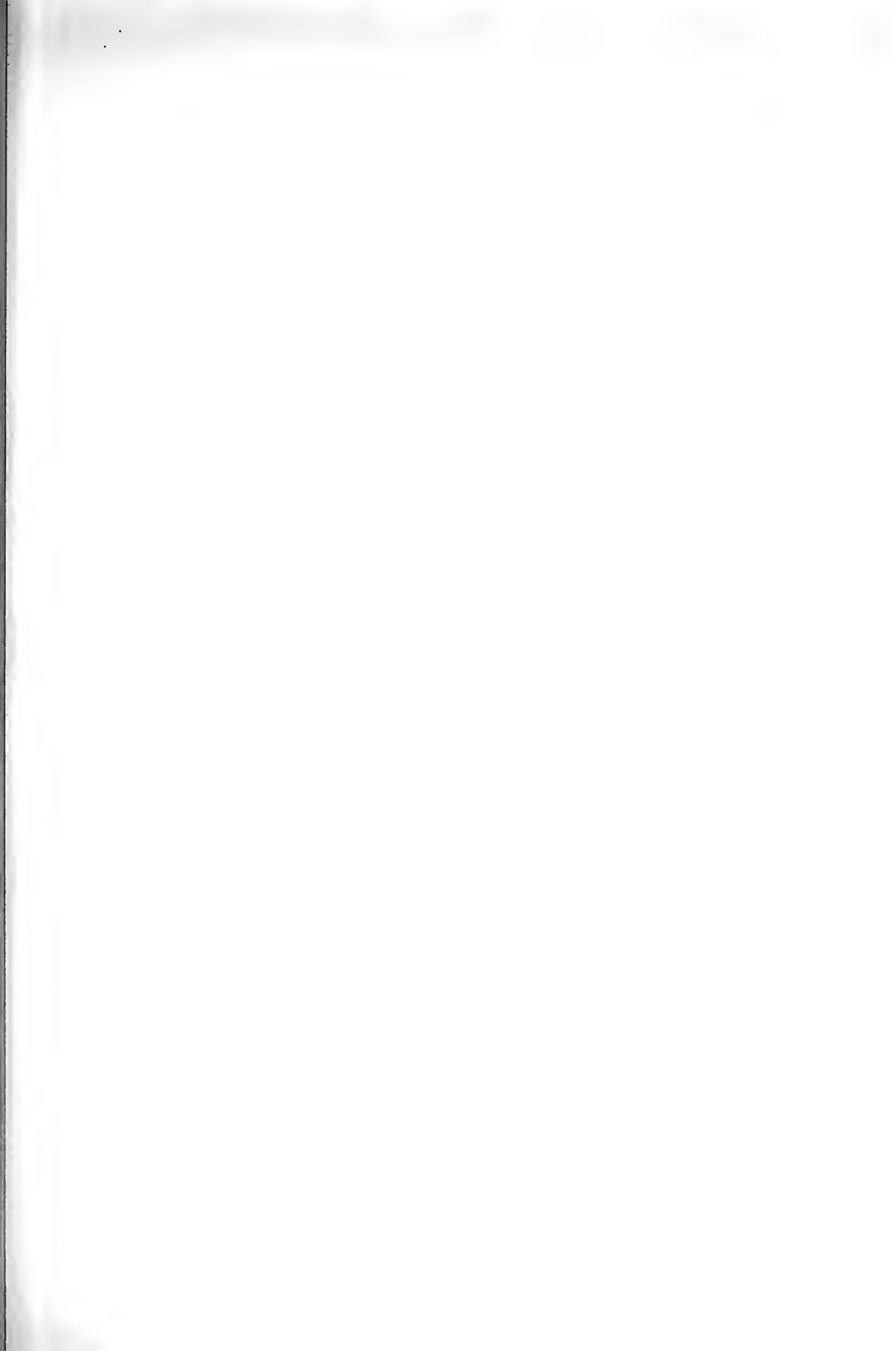
Professor Abercrombie said they ought to be grateful to Sir Charles Ruthen for his boldness and courage in importing the timber-frame method of construction from the States and carrying out the experimental scheme. Personally he would welcome the adoption of properly designed houses of that type in this country.

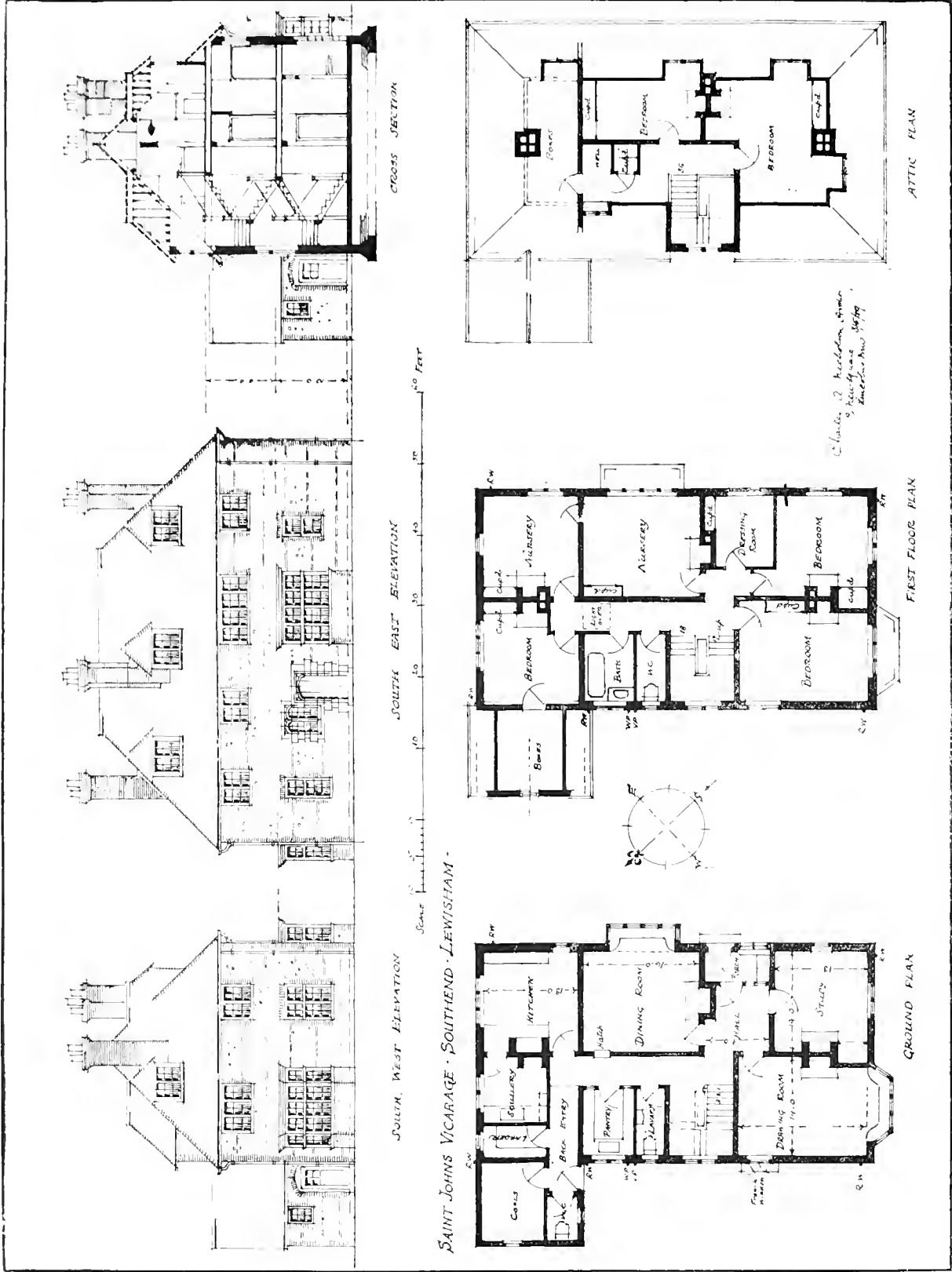
LONDON BUILDING TRADE NEW WAGES SCALE.

The decision regarding wages affirmed on Monday by master-builders and operatives in the London building trade is estimated to bring to builders' labourers another 11s. per week, while mechanics will receive about 9s. 2d. on a 44-hour week.

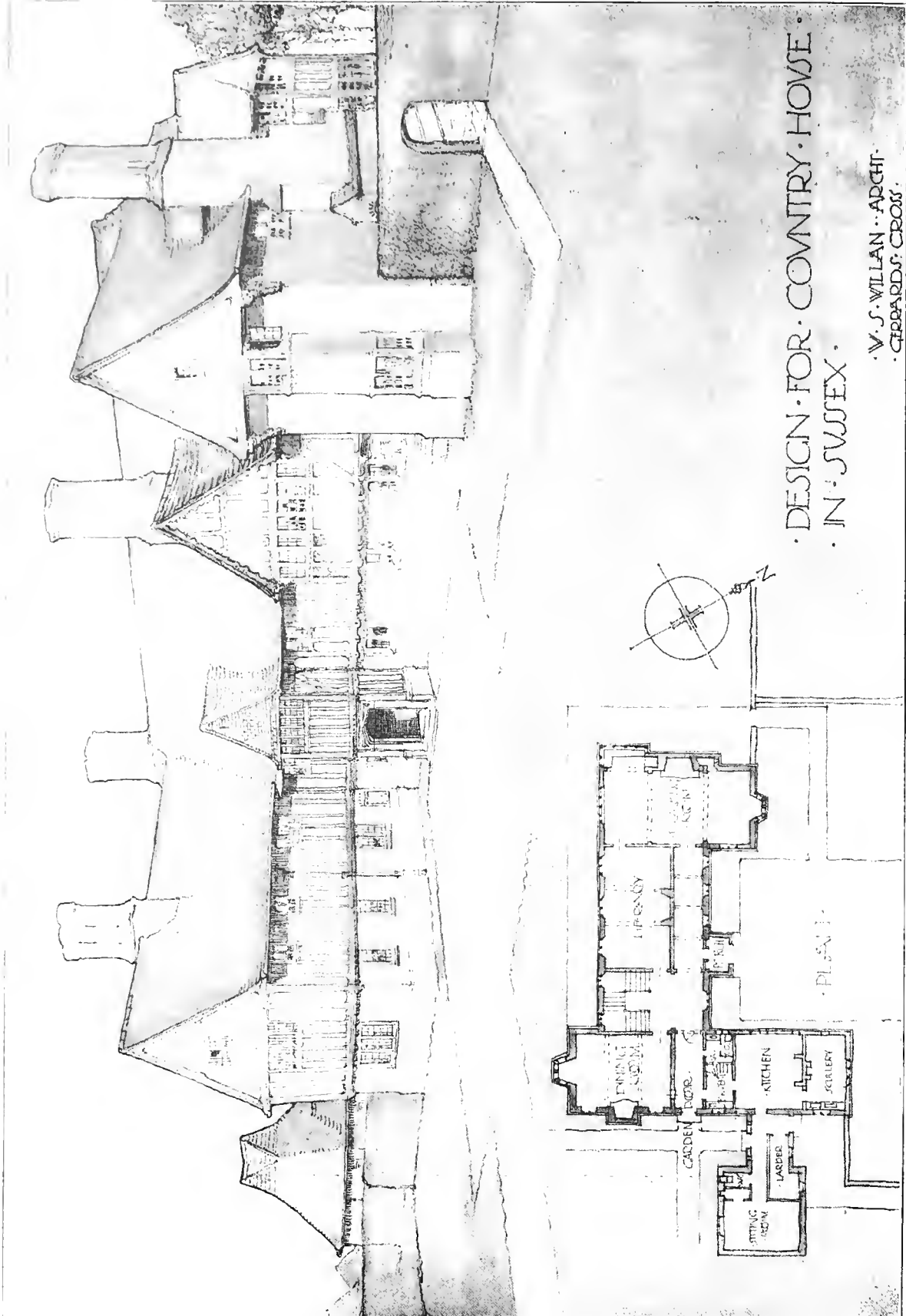
A circular prepared by the National Federation of Building Trade Operatives for London, issued last Monday night, claims that the highest rate per hour earned before the war was 10½d., whereas four cutter and spindle hands now earn 2s. 0½d. per hour.

The main rates are as follows: Four cutter and spindle hands, 2s. 0½d.; granite masons and mason fixers, 2s. 0½d.; plumbers, 2s.; masons, carpenters, and joiners, bricklayers, plasterers, and wood-cutting machinists, 1s. 11½d.; painters, slaters, and tilers, 1s. 10½d.; marble polishers, 1s. 9½d.; scaffolders and timbermen, 1s. 9d.; and labourers, 1s. 8d.





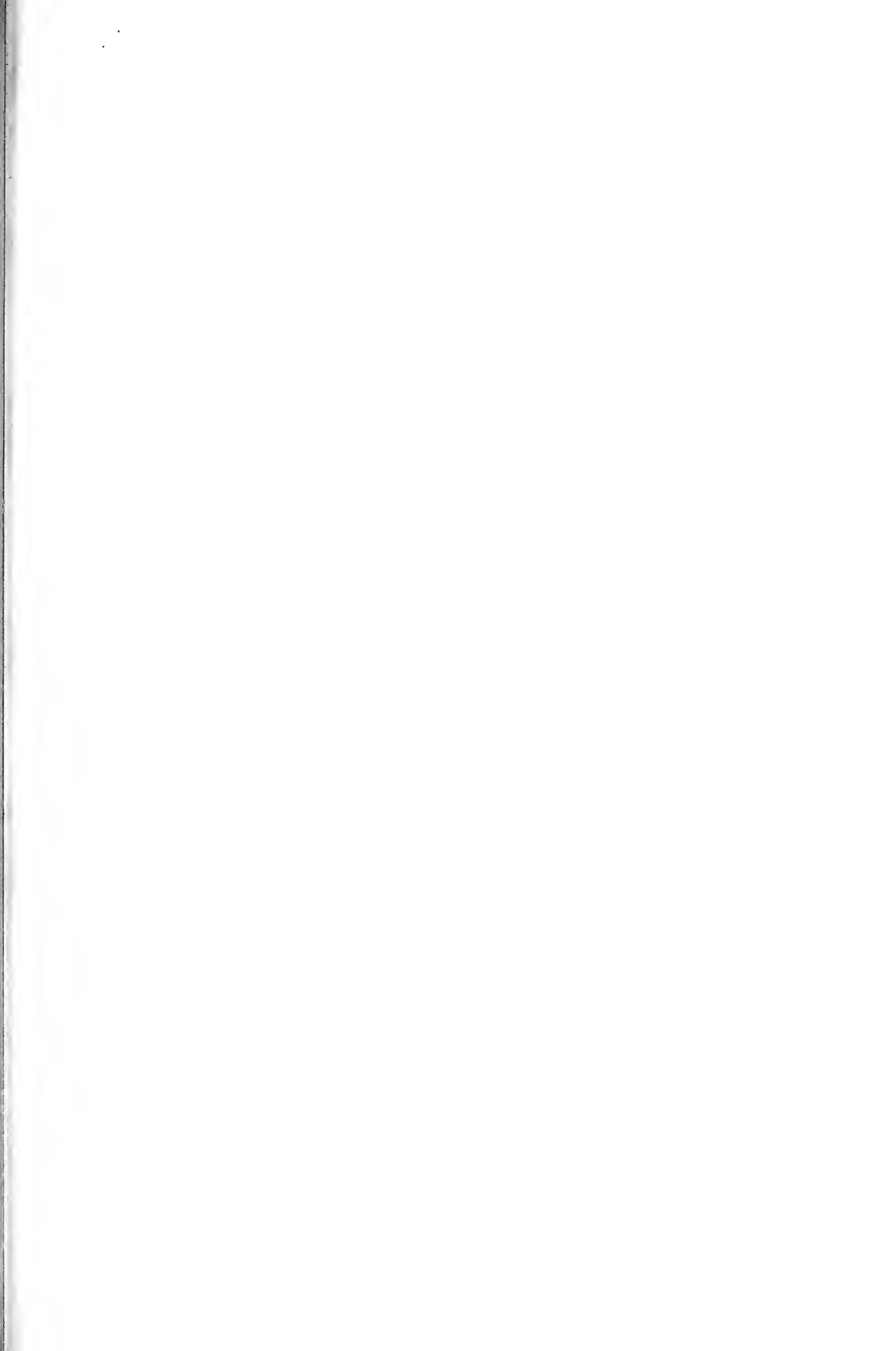
ST. JOHN'S VICARAGE, SOUTHEND, LEWISHAM, LONDON, S.E.
Sir CHARLES A. NICHOLSON, Bart., M.A., Architect.



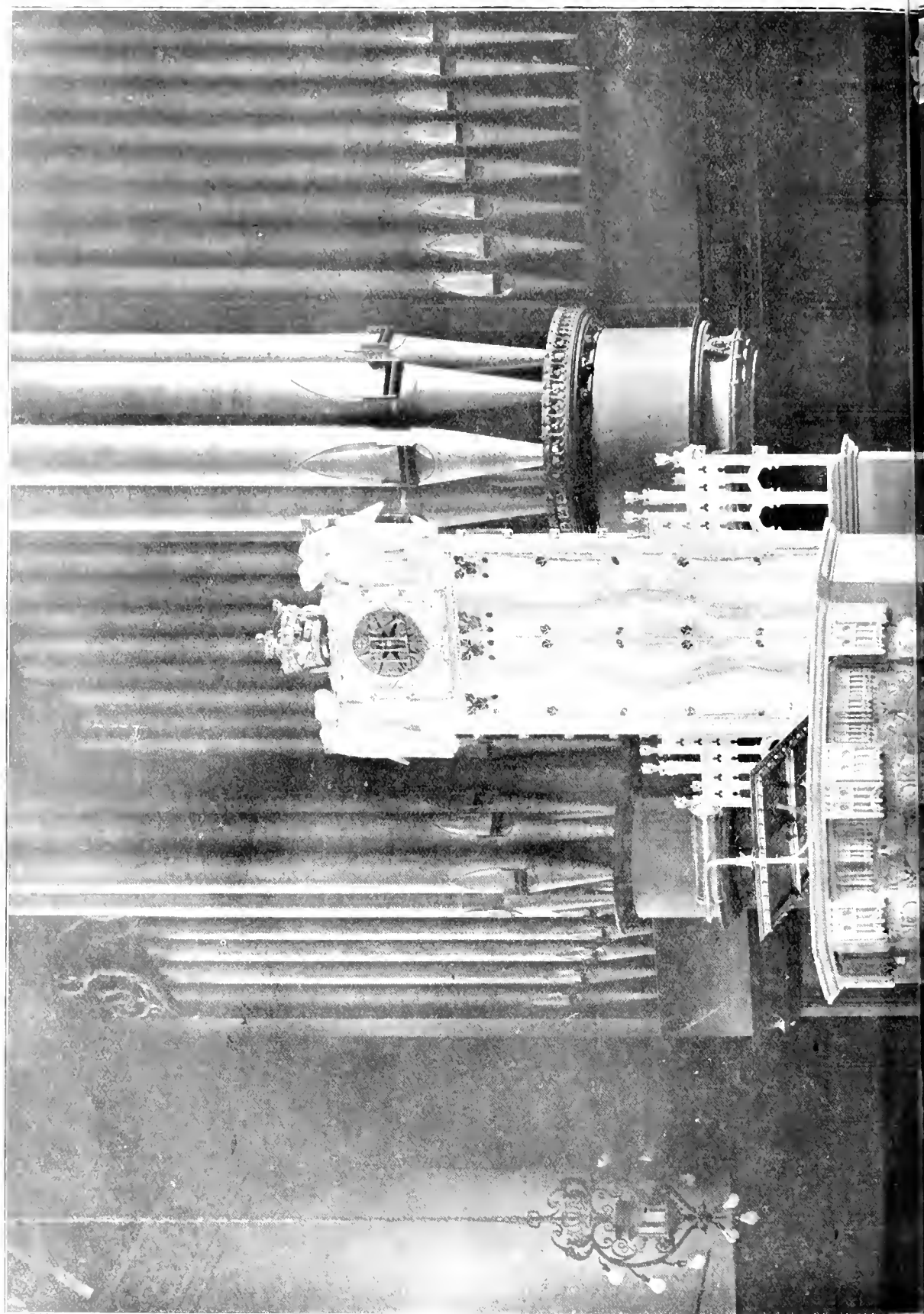
DESIGN FOR COUNTRY HOUSE
IN SUSSEX

V. S. WILLAN ARCHT.
GEORGE CROSS

A SUSSEX COUNTRY HOUSE. MR. W. S. WILLAN. ARCHT.



THE BUILDING NEWS, NOVEMBER 18, 1919

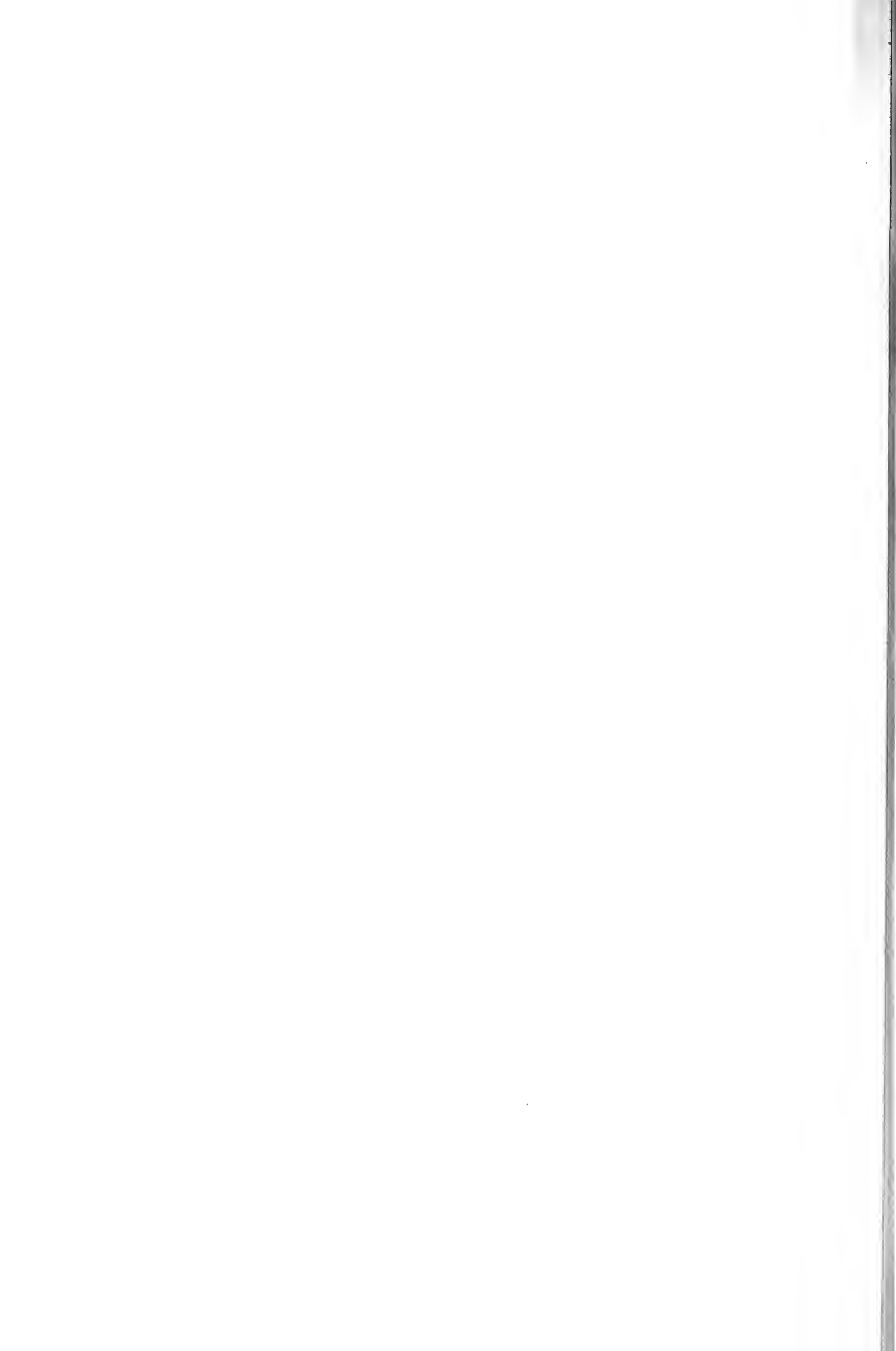


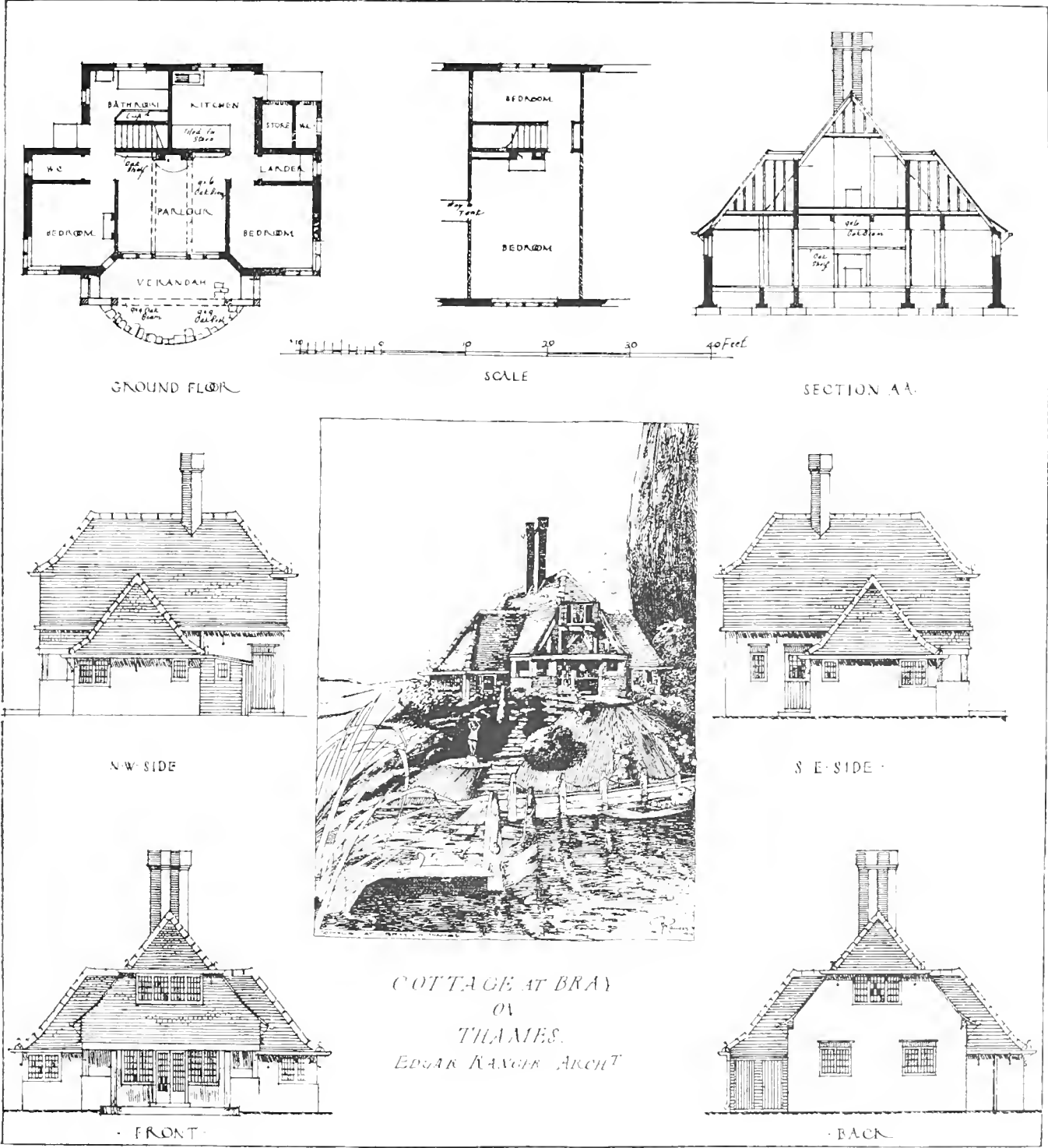


THE "EADIE" MEMORIAL PULPIT, CONGREGATIONAL CHURCH, WITHINGTON, LANC.
Sculpture by Mr. ALFRED FORT. Mr. FORT, 33A PERCY, ANGLICAN.



"THE GOOD SHEPHERD": STAINED GLASS STUDY.
Designed and drawn by the late H. W. LONSDALE.





A RIVERSIDE COTTAGE AT BRAY-ON-THAMES.
MR. EDGAR RANGER, ARCHT.

Correspondence.

THE SOCIETY OF ARCHITECTS AND IRISH HOUSING SCHEMES.

To the Editor of THE BUILDING NEWS.

Sir,—The attention of The Society of Architects was recently drawn to an Order of the Housing Department of the Local Government Board for Ireland with respect to the employment of architects by local authorities for the purpose of housing schemes under the above Act, which provided for the formation of a panel of architects limited to members of the R.I.B.A. or of the R.I.A., Ireland.

As such an Order, if not extended, would have debarred those members of the Society of Architects who are not members of either one of the institutions named from being included in the panel, the Society took the matter up with the Local Government Board for Ireland, which has agreed that all members of the Society practicing in Ireland may make application to be included in the panel. The names of several members of the Society who would have been excluded under the Order as it stands, have already been added to the panel.

The Society's view is that public architectural appointments should be open to all architects possessing the required professional qualifications, seeing that no existing architectural body has the monopoly of such members of the profession on its registers.—I am, etc.,

C. McARTHUR BUTLER,
Secretary.

28, Bedford Square, London, W.C.1.

LUXURY BUILDING.

Sir,—A few weeks ago you were good enough to allow me to make a proposal through your columns for the formation of a Federated Council of architectural bodies capable of taking joint action quickly in any matter affecting architects. I believe there are some faint hopes of the proposal receiving further consideration at some future time, but in the meanwhile a matter has arisen which could at once have been dealt with by the proposed body had it been in existence. I refer to the Government's proposal to introduce a Bill this week for the purpose, *inter alia*, of stopping what is vaguely described as "luxury building," with the idea of concentrating labour on the National Housing Scheme, or in other words facilitating one form of private building enterprise at the expense of another. By the time this letter is due for publication the Bill will probably be before the House of Commons, and architects should be ready to support their societies in any action which they may take with a view to having the Bill thrown out, or amended, as may seem best.

In my opinion, the Government proposals will not accomplish the end in view, but will merely hamper still further the building industry and aggravate the existing artificial conditions caused by the Housing Act.

By all means let us get back to private enterprise in building, but let us do it by the removal of restrictions rather than by the further imposing of them on one section of the building community.

Probably the Government has not taken the trouble to ascertain the amount of housing already provided under great difficulties by private enterprise, and which probably compares very favourably with that accomplished by the Government with all its resources.

It should not be forgotten that there are many building owners engaged at the present time upon private building enterprises of a class which might to the narrow official mind be deemed "luxury building," and who at the same time are providing working class housing in connection with their schemes.

For instance, a firm of architects in London have to my personal knowledge at the present time work in hand for new business premises, garages, alterations to property, etc., ranging in value from £300 to £12,000, and aggregating a total of over £21,000. In each case the building owners are providing cottages and flats in connection with these properties at an aggregate cost of over

£24,000, and in some cases they are proposing to spend three times as much money on the cottages as they are on the "luxury building." The point is that if this "luxury building" is stopped the housing schemes will not be proceeded with, and all concerned will be put to great loss and inconvenience. No doubt there are many other similar cases.

The remedy is not to subsidise one class of building and stop another, but to remove restrictions on labour, increase production, stop profiteering and unemployment doles, facilitate transport, repeal restrictive legislation, and restore to private individuals the right to carry on their lawful business. In the debate in the House of Commons there was much talk of mobilising all the housing resources in the country in support of the Housing Act, but there was not a single reference to the services which architects are capable of rendering in this matter if they are given a chance.

The Government's proposals mean that architects who have for many years suffered as a result of legislation crippling to the building industry, and who have had all their private work stopped for the past four or five years by the war, and are just beginning in some cases to take up the threads of their practice, are again to be penalised, quite unnecessarily, unless some strong action is taken by the representative architectural bodies, backed up by their individual members. Separate societies can, and no doubt will, take any necessary action, but it could be made so much more effective if it could be directed into one channel, with the whole weight of the profession behind it.

An academic protest against the Government proposals is very little use, though it is better than letting the matter go by default. It should be followed up by further action, and I shall be glad to hear from architects who are likely to be adversely affected by the Government proposals, with a view to a strong case being made out by the Society in any action it may decide to take.—Yours faithfully,

C. McARTHUR BUTLER,
Secretary of the Society.

The Society of Architects,
28, Bedford Square.

THE HOUSING SCHEME: A REMEDY.

Sir,—The Government have been "building castles in the air"; we have heard of thousands of new houses—on paper—but an imaginative mind and much talk will not build houses. The way to get houses built is for the Government to leave builders and the building trade alone, and let them get to work. No builder can afford to build with the prospect of the Government subsidising other houses.

Thousands of people have bought, and are still buying, new motor cars at the advanced prices, and paying premiums in addition, and these same people and many others would gladly pay the advanced prices to get a new house, and so leave the old houses for others who cannot afford new, but who have to pay extortionate rents for apartments.

Houses will never again pay to build until the present unjust and antiquated system of rating houses for national expenses, such as the cost of education, the poor, the police, and roads is abolished and a national income rate levied on all individuals.

House property has been so overburdened with taxation that people avoided buying so long as they could rent, and hence the shortage; the remedy is to unburden this unjust taxation and rating of houses, instead of subsidising building.—Yours, etc.,

ELLIS, CORR AND CO. F.A.I.
Richmond Mansions, Putney, S.W.15.

For the first time for five years a new villa is in the course of erection at Sunbury Hill.

Mr. Thomas McMeikan, the borough surveyor of Liskeard, died suddenly on Monday week from heart failure at the age of fifty-four, while dressing in the morning, when he was seized with illness. Mr. McMeikan was appointed borough surveyor and sanitary inspector of Liskeard in 1896, and in 1904 he was placed in sole charge of the waterworks, then just acquired.

PROFESSIONAL AND TRADE SOCIETIES.

INCORPORATED CHURCH BUILDING SOCIETY.

This society held its monthly meeting yesterday (Thursday, the 20th inst.), at the Society's House, 7, Dean's Yard, Westminster Abbey, S.W.1. George Cowell, Esq., F.R.C.S., in the chair. Grants of money were made towards enlarging the churches at Bwlchgwyn, Christ Church, Denbigh, £40; Colchester, S. Mary Magdalene, Essex, £75; and Dartford, Christ Church, Kent, £125, making in all £275; towards repairing the churches at Holloway, S. Saviour, London, £75; Hornorton, S. John the Baptist, near Banbury, £75; and North Marston, S. Mary, Bucks, £75; and towards providing mission churches at Furzedown, the Links Estate, Surrey, £50; Wardley, Heworth-on-Tyne, Co. Durham, £25; and Well Hall, Eltham, Kent, £75, making in all £250. The following grants were also paid for works completed at Haggerston, S. Columba, London, £60; Stepney, S. Matthew, London, £50; Upper Holloway, S. James, London, £125; Edmonton, S. Alphege, London, £10; and Nenthead, S. John, Cumberland, £15. In addition to this the sum of £406 was paid towards the repair of twenty-seven churches from trust funds held by the Society. The Society likewise accepted the trust of a sum of money as a repair fund for the Church of All Saints, North Ferriby, Yorks. During the past few months the Society has been approached with a view to assisting as many as seventy new schemes of church building, enlargement and repair.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

—There will be two general meetings of the Royal Institute on Monday, December 1. The first general meeting, at 8 p.m., will be of a more or less formal nature. Owing to the negotiation with the Ministry of Health of a new scale of fees for housing, it is necessary to ask the members to sanction the alteration of Clause 9 of the Scale of Charges. At 3.30 a special general meeting will be held for the purpose of considering a proposal by the Council to suspend those parts of By-laws 10 and 11 which give members the power of blackballing at elections and prevent a blackballed candidate from coming up again for election for a period of twelve months. If the Council's proposals are approved, it is intended again to submit for election the sixty-two war service candidates for the Association who were so unfortunately blackballed last June. The election will then be carried out by a direct vote at a general meeting.

CHIPS.

The east window of St. Stephen's, Coleman Street, damaged in an air raid, was rededicated (after restoration) by the Chaplain General of the Forces on Wednesday.

Between 1,000 and 1,200 timber-frame houses, with asbestos covers, will, it is estimated, be produced in the first year by associate companies of the Aircraft Manufacturing Company. Of the two types of houses, one selling at approximately £430 will have a living room, three bedrooms, bathroom, scullery, and offices, while the second, listed at about £525, will also have a parlour.

The Housing of the Working Classes Committee, in a report to the London County Council, propose the acceptance of the tender of Messrs. Walter Lawrence and Son, Ltd., Finsbury Square, of £62,944 for the erection of block dwellings, comprising 250 rooms, in the second section of the Tabard Street area, Southwark; £3,126 is estimated, in addition, for the preparation of bills of quantities, etc.

The death is announced from pneumonia of Mr. John Kirkwood Currie, at Muswell Hill, on November 5, at the age of twenty-eight years. The only son of Rev. and Mrs. Hugh H. Currie, of Aberdeen, he served his articles with Messrs. Wilson and Walker, of Aberdeen, and thereafter entered the office of Messrs. Niven and Wigglesworth. A student of the R.I.B.A. in 1912, he was elected an Associate of the Institute in 1919. Never of robust health, he was not accepted for the Forces during the war, in spite of repeated attempts to join up, but did strenuous service under the Ministry of Munitions, in the Building Department. After his release he returned to Messrs. Niven and Wigglesworth as their head draughtsman.

Our Office Table.

We have received from the Ministry of Health a copy of the report prepared in the Intelligence Department of the Local Government Board (now the Ministry of Health) on the housing problem in Germany. The report gives some account of the past history of housing in Germany; the present conditions, which are aggravated by the practical cessation of house building during the war; and the measures proposed for dealing with a shortage of houses which seems to be more severe even than that which constitutes one of the many unsolved problems of present day British legislators and administrators. It is published by the Government Stationery Office in London, Manchester, Cardiff, Edinburgh, and Dublin at 1s., and can be had through any bookseller. Its preparation has been most creditably executed, and, if space permits, we may give a summary of its contents next week.

The Victoria and Albert Museum acquired last month, at the sale of Lord Swansea's collection at Singleton Abbey, a complete English altarpiece in alabaster, dating from the middle or second half of the fifteenth century. Such altarpieces were made in considerable quantities from the alabaster quarried at Cheltenham, in Derbyshire, and much of the work was done at Nottingham. They appear to have been regular articles of export, and a certain number of complete altarpieces are preserved in France and Italy and elsewhere, but though many separate panels exist in English public and private collections, no other complete altarpiece, as far as is known, has been preserved in this country. The altarpiece is in triptych form, with its original wood frame painted and decorated with gilt gesso. The lower border bears inscriptions describing the subjects of the panels. These are five in number, and represent the Annunciation, the Nativity, the Holy Trinity, the Ascension of Christ, and the Assumption of the Virgin. At the ends of the wings are figures of St. John the Baptist and St. John the Evangelist. The colouring and gilding of the alabaster has been extremely well preserved, and the whole altarpiece gives a remarkable idea of the brilliant effect produced by such panels, individually often insignificant, when combined in their proper setting. It has been temporarily exhibited in Room 62, to the right of the main entrance.

An important sale for investors is advertised to be held on December 18 next by Messrs. Daniel Smith, Oakley and Garrard, consisting of short-term improved ground rents of £618 6s. per annum (subject to a head rent of £13 10s. per annum) secured on 61 houses, forming part of the Granville Park Estate, Lewisham, with reversion to the rack-rents. The sale will cover, also, the option of acquiring the freehold. The annual value of the houses is estimated at £6,500. The property would appear to be adapted for either investment or for speculation, as the option of acquiring the freehold opens up many possibilities in the case of property so favourably situated in a London residential district.

In the opinion of the Local Government Committee of the London County Council the number of rooms in all tenements should be recorded when the census of 1921 is taken, and the Registrar-General should be empowered to supply additional statistical information from the census returns at the request and cost of any local authority. The Committee further hold that a census should be taken in 1926, as "it is improbable that the conditions with regard to population will have become normal by 1921, especially if by that time housing airders have not been entirely overtaken." Very improbable, we fear, and if Dr. Addison is still Registrar-General as well as Minister of Health we hardly congratulate the local authorities!

At a sitting of the Consistory Court of Norwich diocese last Saturday, before Chancellor North, Mr. J. K. Frost, Hon. Secretary of the Cromer War Memorial Committee, with Mr. Rust, one of the wardens of Cromer parish church, returned the decree in

respect of the application for a faculty to erect a cross with crucifix in Cromer churchyard as a war memorial. The Chancellor said he had received a letter from the vicar formally and emphatically protesting against a crucifix as part of the design. In answer to the Chancellor Mr. Frost said that the vicar's objection was that the crucifix was an emblem standing as the hall mark of an apostate Church. The Chancellor said it was not proposed to erect a crucifix in the church. He should want a great deal more proof than had been urged to make him say that a crucifix was an illegal or improper thing, or that it was a thing more likely to be made the object of superstitious reverence than any other object associated with religion. He should therefore decree the faculty.

Plans are being considered by the City of London authorities for the extension and improvement of Billingsgate fish market. The market was inspected last week by the Departmental Committee of the Ministry of Food, which is inquiring into the organisation of the wholesale food markets of London. The improvements will include an extension of the river frontage, the widening of the approaches, and the provision of greater space inside the market by the construction of a mezzanine floor between the present ground floor and the basement. An ice-making plant is also to be installed. An arrangement is being negotiated with the authorities of the Custom House under which the Markets Committee propose to acquire the land on the eastern side of the market. The present buildings were opened in 1877. Complaints of the lack of space have been continuous for many years.

Giving judgment on Tuesday for a defendant who refused to vacate the house he occupied at Pinner, the freehold of which had been bought by the plaintiff, Mr. Justice Darling said it must not be assumed that present conditions were permanent. Another application might be made to get possession, as it might be that the situation would change. It was notorious that the Government was now offering people money to build houses. He did not know whether anyone would undertake to build houses, because he saw no reason why the moment the man who had the bricks got to know that the builder was getting £150 from the Government, he should not demand either half or the whole of it for himself, or decline to lay more than half the number of bricks.

At a meeting of the Property Owners' Protection Association at Winchester House on Tuesday Mr. A. G. Shering, dealing with the abnormal cost of repairs, said the builders' merchants had formed a schedule of prices, binding themselves under a penalty of £1,000 to charge such. Everything seemed pointing to success, when the manufacturers stepped in and said: "Where do we come in? Unless you admit us to this ring you will get no materials." The result was that the builders' merchants combined with the manufacturers to introduce a price list which meant 800 to 1,200 per cent. over some pre-war prices. Owners and builders were held up by this ring. At Tuesday's meeting of the London County Council Mr. C. G. Ammon declared that the country was in the hands of a building ring. He suggested that trade unions might be approached and asked to undertake the building of houses. Mr. A. F. Buxton said there was no evidence of the existence of a building ring.

At a meeting of the Illuminating Engineering Society last Tuesday evening, Mr. L. C. Martin, lecturer in the Technical Optics Department, Imperial College of Science and Technology, exhibited an invention for increasing the visibility of colours under artificial light, the invention of Mr. G. Sheringham, an artist. Light is reflected from the electric bulb against a screen, made up of a combination of colours so worked out, according to exact formulae, before they are painted on the screen, that the light thrown down is like diffused daylight. Its value to doctors, makers of artificial eyes, artists, textile workers, and others is described as considerable.

The first standard wooden house built in accordance with the plans of the Ministry of Health has been erected at Great Plumstead, near Norwich, by Messrs. Boulton and Paul, Ltd., of Norwich. The house was begun just over a month ago; it was approved by the Ministry of Health last week, and the tenant went into occupation on Saturday. The house is built in the bungalow style. It occupies one floor, and contains three bedrooms, a living-room, kitchen, and scullery. There is no bathroom, but this is due to local circumstances, provision for a bathroom being made in the firm's standard houses if desired. The foundation consists of six inches of concrete, and it is claimed that the house will be as durable as a brick-built dwelling. With the exception of the foundation and the chimneys, the whole is made in sections in the workshop. On receipt of an order, the firm undertake to deliver at the site the sections of a complete house for £368, internal fittings, chimneys, and foundation increasing the price to £675. Messrs. Boulton and Paul hope to raise their output to 5,000 houses a year, or a complete house every half-hour of working time. The standard wooden house, which is designed primarily for rural purposes, will qualify for the proposed £150 subsidy. During the Press visit on Tuesday last it was stated that the firm's desire was to secure the greatest possible output by their employees, and to pay the utmost that any hand could earn, but the Carpenters' Union had warned members that they must not accept these conditions, on pain of expulsion. All those involved had decided to throw over the union and stand by Messrs. Boulton and Paul.

OBITUARY.

Sir Guy Francis Laking, who died on Saturday in London, was forty-four years of age. He was the son of a physician, and in early life was the chief adviser of a well-known firm of auctioneers on porcelain and antiques. For some years he held the appointment of Keeper of the King's Armoury and Keeper of the Armoury of the Wallace Collection. He was also Keeper and Secretary of the London Museum, now established at Lancaster House. His books on "The Armoury at Windsor Castle," "The Furniture of Windsor Castle," and "The Sèvres Porcelain of Buckingham Palace" are familiar to collectors and others.

The death is announced of Mr. John Howard Pentland, R.H.A., M.A., B.E., T.C.D., F.R.I.B.A., lately principal surveyor of H.M. Office of Public Works, Ireland, on 15th inst., after a brief illness. Mr. Pentland had lately resigned his position as principal surveyor to the Board of Works, but his death was quite unexpected. Mr. Pentland was a pupil of his uncle, the late J. Rawson Carroll, F.R.I.B.A., with whom he subsequently entered into partnership. Later he was successful in the competitive examination for surveyor in the Board of Works, afterwards becoming principal surveyor. When the Architectural Association of Ireland was revived in 1896 he took a warm interest in its inception. He was elected president of the Association in 1893-9, freely devoting his time and energy to furthering its interests. His executed architectural works were chiefly in connection with public buildings, notably a series of very well designed provincial post offices. He was architect for the last important alterations and reconstruction of the General Post Office, Dublin, which were completed and just opened to the public when the rebellion of 1916 occurred in Dublin, resulting in the destruction of the whole interior of the building. He also designed the triumphal arch forming the north-west entrance to St. Stephen's Green Park, Dublin, as a public memorial to the officers and men of the Royal Dublin Fusiliers who fell in the South African campaign, 1899-1902.

A Hull master painter complains that many of his hands will not start work until late in the week, and it is quite usual for them to refuse to work on Saturday. They say they don't want to pay income-tax.

THE BUILDING NEWS

AND ENGINEERING JOURNAL.

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ILLUSTRATIONS.

New Church at St. Helens, Lancashire. View and plan. Mr. W. Douglas Cardie, M.A. (Cantab.), F.S.A., F.R.I.B.A., Architect.	
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Strand, W.C.2

Detail working drawing of Pavilion, Regent Street. Front now erecting for Messrs. Dickins and Jones, Messrs. Henry Tanner (Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A.), Architects.

Southdown Farm House near Petworth, Sussex. Additions. Mr. Maurice B. Adams, F.R.I.B.A., Architect.

House at Digsway, Herts. View and plan. Mr. Andrew Grey, M.S.A., Architect.

Currente Calamo.

The new Housing Bill is held up for further consideration "to some of the details." We are not surprised. It gives statutory effect to the decision of the Government to subsidise builders, but only to the maximum of £150, which we believe will not attract many. It proposes to arrest "purely luxury building," which it will be hard to define. But the novel feature is the financial scheme, the chief recommendation of which is that local authorities should be empowered to issue 5½ per cent. "local bonds" for five, ten, and twenty years, the interest to be free of income-tax in the case of holders of less than £500 of the bonds. The bonds are to be of the denomination of £5, £10, £20, £50, and £100, and multiples of £100, for periods of five, ten, and twenty years, and to be issued at their face value. Interest to be payable half-yearly, the first interest payment to be adjusted in accordance with the date of subscription. Bonds to be secured upon the whole of the rates, revenues, and properties of the authority issuing the bonds. Such security will include the rents derived from the houses to be erected, supplemented by the statutory contributions of his Majesty's Exchequer under the Housing Acts. Bonds to be on continuous issue. Interest on bonds to be paid without deduction of income-tax at the source up to the limit fixed. Bonds to be a trustee investment. Bonds to be transferable free of expense. Bonds to be accepted at their face value, with accrued interest, as cash in payment of the purchase price of houses erected and sold by the local authority. Other recommendations are: The onus of finding the capital necessary for housing should remain on the local authorities. Mortgage loans of local authorities to be constituted a trustee security in all cases in which the issuing authority has, under existing Acts, power to issue stock ranking as a trustee security. The largest authorities to continue their present system of borrowing to provide the money required for housing. Power to be taken to continue the Public Authorities and Bodies (Loans) Act, 1916, which enables local authorities to borrow abroad. The capital required for the 500,000 houses to be finished by September, 1922, is £400,000,000, and an "investment cam-

paign" is to be organised all over the country. We doubt if that will bring in the money.

The Council of the Society of Architects, at a meeting held on November 28, unanimously resolved to make the strongest possible protest against the proposals of the Government to subsidise one form of private building enterprise, and at the same time to stop what they may consider to be "luxury building," which is another form of private building enterprise. The Council is of the opinion—and with it, in our opinion, all really well-informed people—that the present high cost of building is more largely due to the restrictions necessarily placed by the Government on building operations by private enterprise during the war than to any other causes, and that the present critical situation in regard to the National Housing Scheme is the result of Government control and management, which latter is also chiefly responsible for the restriction of the output in labour and the supply of materials. It is also maintained that the whole system of subsidies in connection with the building industry is wrong in principle and entirely unnecessary in practice, while the proposal to penalise one section of the building community at the expense of another is unwarranted by the present situation. The effect of the present subsidy will be to increase the cost of building by further restricting the output of labour, while any stoppage of so-called "luxury building" will merely hamper still further the building industry and aggravate the existing artificial conditions caused by the Housing Act.

The Minister of Health and his advisers must be aware that building can be carried out at less cost by private enterprise than by local authorities, and that any form of official control is detrimental from the point of view of economy and speedy production. As the Council of the Society of Architects insists, the best interests of the country in the present crisis of the National Housing Scheme will be served by allowing a free market both in labour and materials. In other words, by a return to pre-war conditions. Restrictions and control neces-

sary in war-time are out of place now, particularly when the present difficulties can be got over more quickly and effectively by other means. The remedy is to remove restrictions on labour and materials, give opportunities and encouragement for workmen to increase production, stop profiteering and unemployment doles, do away with trusts and combines in building materials, facilitate transport, repeal restrictive legislation, remove control, and restore to private individuals the right freely to carry on their lawful business. The building industry will then revive, and there will be no lack of persons desirous of building houses or of workmen and materials to enable them to do so. It remains for every member of Parliament to take into serious consideration these points, and to use their utmost endeavours to stop any further restrictive legislation, and to urge upon the Government the extreme importance to the community of removing all restrictions which hinder the building industry from resuming its normal course.

"As regards what might have been expected to be treated as the most immediately pressing measure—the houses for heroes"—writes the Right Hon. J. M. Robertson—"we have reached, a year after the Armistice, the happy state of things in which, with 500,000 houses declared to be urgently needed, we have Dr. Addison's assurance that 10,000 are 'being built.' As to the disgraceful character of that fiasco, there need be the less hesitation in passing an opinion, because we have the virtual avowal of Dr. Addison that it is a national scandal. That, of course, is not an avowal by the Minister that he has been to blame. He has taken the prudential course of blaming his predecessor, Lord Downham, better known as Mr. Hayes-Fisher. Now, Dr. Addison knows very well that the financing of housebuilding was a Cabinet question, and that Mr. Hayes-Fisher, whatever might be his own inclinations, could not have had Treasury sanction for the requisite State guarantee without a definite Cabinet decision, which was never given. Dr. Addison's attack on his predecessor thus recoils at once upon his colleagues, who are collectively responsible for the colossal failure of housing policy. Their latest declaration of hous-

ing policy is as preposterous as their past failure is discreditable. We are told that they propose to make during one year bonus grants for all houses built, the maximum sum paid being £150. A whole year has been lost, and they now appeal to builders in general to produce the houses that the Government has failed to produce. There appears to be no possibility that more than 100,000 houses at the very outside can be built in a year, and as that figure represents little more than the normal annual shortage, we shall stand at the end of another year very much where we stand at present after paying perhaps ten millions for relief. Such will be, after two years, the housing conditions of the land that was to be made fit for heroes to live in."

Where the lessee of two residential flats, held by him at rentals of £475 and £200 yearly, and giving him all kinds of conveniences, including the supply of provisions, was summarily evicted by the military authorities, who took and kept possession of the whole: is he still liable to go on paying his rent to the landlord as if nothing had happened? In law "The answer is in the affirmative," as they say elsewhere. To the business mind, a lease is a contract, and in such a state of things it is clear that when a contract is thus frustrated it is at an end. But a lease comes within our ancient land laws, and so a different rule of what we still call justice comes into play. The recent case of "Whitehall Court, Limited, v. Ettlinger," in the High Court, is its latest illustration. The plaintiffs sued the defendant for £400 odd, as rent due under the covenant in the law, after his eviction. The defence was that, where the lawful act of the Executive made carrying out the terms of the law quite impossible, it was at an end, or, at least, payment of rent was suspended. The Lord Chief Justice overruled this legal point by holding that there had been no eviction, the premises having been requisitioned temporarily by the authorities. He was bound by the lessee's covenant, he held that the "lessee's estate" under lease continued technically, and gave judgment for plaintiffs, leaving the defendant to go before the War Losses Commission and get back what he could. Then he added, as if with regret, that he could not apply the "doctrines of contract" or he would have decided differently. There will probably be an appeal, when a broader view may be taken. Yet this is doubtful, as the case really involves the whole large issue as to whether or not justice weighs land laws in one set of scales and contracts in another?

Mr. H. N. Ellis, writing to the *Morning Post* from 57, Chancery Lane, makes a practical suggestion. He proposes that a special committee of builders, architects, borough and district surveyors, with a representative of the London County Council and the Government, and also of the manufacturers of the various materials, should be formed to get at actual facts as to why prices are so high.

For instance, he asks, why is gravel 26s. a load as compared with 7s. a load in 1914? The gravel costs no more; it is only labour. Tiles which were purchased at £1 a thousand now cost £4 10s., and bricks, which were 19s. 6d. a thousand, are now £4 4s. a thousand. An increase in the cost of bricks can only be justified to cover the cost of labour and freightage. As regards timber, a 4in. by 4in. joist now costs £52 a standard, which in 1914 only cost £10; 1in. floor boards, which cost 12s. 6d., now cost 55s.; cement, which was 26s. a ton, is now £5; paint, which was 26s. a cwt., now costs £5 10s. These figures can be taken as average prices round London; at any rate, they are the present prices ruling in Highgate and Muswell Hill districts, and help to make building prohibitive. If, says Mr. Ellis, materials alone could be obtained at, say, twice the price they were before the war, plus the present price of labour, ample builders could be found who would speculate successfully and dispose of every house they could build. There are miles and miles of road frontage within ten miles of London, so that there is no question of making any new roads.

If our memory serves us, the story is told in one of Israel Zangwill's novels of a religious sect for which the idiot of the village wrote all the hymns. We suggest to the Presteign Urban District Council that they might similarly select their new surveyor, who might possibly be found among their own members, and so "keep the job in the family"! At present the council appears to be at loggerheads with some of its officials about salaries paid, and both the clerk and the surveyor have resigned. The retiring surveyor was paid, for presumably part-time work, £30 a year, £20 of which was as inspector and £10 as surveyor. A member moved that the combined salary be increased to £50 a year, but was afraid that they "could not get a good man for this figure," and suggested £60. Another councillor thought "that they might get an ex-soldier who had a pension, and could do something else." In the end it was decided to advertise for a part-time officer at £50 a year, preference to be given to an ex-Service man. If applications have been few, our suggestion should really find favour with the frugal fathers of Presteign!

Among the systems of rapid house building by the means of substituted materials for brick which have received the approval of the Ministry of Health, the "Doric," introduced by the Modern Building Company, of Central Chambers, North Street, Quadrant, Brighton, has some distinctive features. The cottages, of which the company has erected two, are of four integral parts. "Doric" patent building sheets form the external plane of the wall. These sheets are manufactured by a special process of Portland cement and asbestos fibre, reinforced with netting, and weatherproofed with a permanent bitu-

minous impervious composition, the face of the sheets being finished with rough cast. This "Doric" exterior plane, which is an integral part of the wall itself, keeps all moisture from penetrating into the wall, and protects the wall from the disintegrating action of frost and other atmospheric agencies. "Doric" asbestos-cement sheets form the internal plane of the wall. Reinforcements and stretchers guarantee the stability of the concrete core, and give great monolithic strength and permanence. "Doric" concrete key-block piers are built at suitable intervals according to the type of building. Next—the "Doric" building sheets forming the exterior plane of the wall, and the "Doric" asbestos-cement sheeting forming the interior plane, are placed into position according to the thickness of the wall required, and temporarily fixed by stretchers held together by special iron dogs. The concrete is then poured into the cavity, and when set the whole forms a solid homogenous monolithic reinforced concrete wall. On reaching the height of the first floor, the joists are placed into position with prongs and bars attached thereto, the string course cement moulded or timber lined, and the construction of the wall proceeded with as before, except that the walls of the upper portion of the building can be correspondingly reduced in thickness. The timber stretchers, which temporarily hold the two planes of the walls in position during course of construction, afterwards form permanent fixings in place of ordinary plugs, offering ready and secure fixings, and the iron dogs, together with the prongs and bars, form the reinforcements of the walls. The internal face of the walls can be left untreated in their natural grey colour, and can be easily cleaned, or decorations can be executed in the usual manner either by papering or distempering and painting. All chimneys are constructed with fire-clay flue pipes set in the solid concrete, consequently all risks of fire are removed, and perfect draughts are ensured, smoky chimneys are avoided, and there are no bricks to become dislodged during sweeping.

ELECTRIC LIGHTING AND THE HOUSING QUESTION.

So far the only material result of the Government's housing scheme is the erection of a solitary house—the mouse-like offspring of a mountainous inefficiency. Some day, perhaps, we shall see bricklayers and joiners engaged in the unfamiliar practice of housebuilding.

Most of the discussion about the proposed new houses is concerned mainly, if not exclusively, with the rival merits of brick, concrete, and wood as a structural material, or the desirability or otherwise of a second living-room. Very little has been said about what is perhaps one of the most important items of interior equipment—namely, the artificial lighting system. And yet artificial lighting, if properly arranged, is capable of giving more assistance in raising the standard of domestic comfort, beauty, and hygiene than perhaps any other single factor.

A lighting system is not, or should not be, a mere excrescence grafted upon a finished building. It should form part of

the original design, because in many cases the plans of the architect depend, or may depend, upon the system of lighting adopted. Let us consider how structural design is related to artificial lighting; and, more particularly, how, by installing electric light, it is possible to effect considerable economies in the cost both of building and of subsequent maintenance.

There is no need to dilate upon the advantages from the tenants' point of view. No householder with unimpaired mental faculties would, if given a free choice, use any other form of illuminant. And in the future years, when house-building has overtaken demand, this preference will operate to the disadvantage of the landlord who has not equipped his house with electric light. At present a man will take any house, flat, or lodging that offers, but later on he will insist upon electric light.

ELECTRIC LIGHT AND THE COST OF BUILDING.

It is claimed, and disputed, that wooden houses can be erected for about half the cost of brick houses. Considerations of fire risk preclude the use of any other illuminant than electric light in wooden houses. Any economy resulting from the construction of wooden houses may, therefore, be claimed as due to electric light.

It is possible, if the installation of the electric light forms part of the original plans, to build rooms with lower ceilings than are commonly the rule. Low ceilings are, of course, not recommended as having any intrinsic merit, but there is no good reason why the average ceiling heights should not be reduced by six inches or one foot in the electrically-lit home. With other illuminants the present height is necessary for ventilation; but, since electric light neither produces fumes nor consumes oxygen, the tenant would be none the worse for a slightly smaller cubic area. The saving in the cost of building would be, at any rate, perceptible.

Another way in which electric light brings an economic influence to bear upon architectural design is in the matter of windows. Most small houses possess several windows which are not necessary for ventilation, but are provided solely for the purpose of lighting. Now, windows are an expensive item, and any reduction in the number should make a considerable difference in the cost of building. By installing small electric lamps in passages and cupboards, the necessity for these subsidiary window lights is removed. The cost of operating these lamps for the short periods required is quite negligible; indeed, it should not cost more than a penny or so a year for a passage light of 8 candle-power, which can be burned a hundred hours for the consumption of one unit of electricity.

Although the subject of this article is electric lighting, it would not, perhaps, be out of place to mention a very decided economy which may be achieved by electric heating, which, after all, is a development of the old carbon filament lamp. It would be idealistic to suggest the installation of electric heating in all rooms—the Englishman is wedded to his coal fire in the parlour—but in bedrooms, where no traditional sentiment is involved, the provision of wall-plugs for electric heating, instead of coal grates, would have several advantages. Chimney, chimney breast, and fireplace could all be eliminated, because the electric heater needs no ventilation. It has been calcu-

lated that the mere reduction in size of chimneys, made possible by the use of bedroom gas-fires, would bring down the average cost per house by £30. In the case of the electric heater the saving could probably be put at £50 at the very least.

ELECTRIC LIGHT AND HOUSE REPAIRS.

Repairs and re-decorations will no doubt have to be carried out by the landlord (whether he is a private individual or a local authority), in the case of the majority of the proposed new houses, so that any means of reducing the cost of maintenance should be adopted with alacrity. There can be no question about the advantage of electric light in this respect. The filament of the electric lamp operates in a hermetically sealed glass bulb, so that it is obviously impossible that it should have any damaging effect on the decorations. Ceilings which, with other illuminants, require whitewashing every three years, and are only clean for a month or two after the operation, will, with electric light, remain spotless almost indefinitely. And, of course, the same thing applies, but not so obviously or in so great a degree, in the case of paint work and wall-paper.

SIMPLE EQUIPMENT FOR SMALL HOUSES.

With regard to fittings, etc., for electric light, there is no need to go to any great expense on this account. Of course, if these are provided by the tenant, the cost of building will not be affected, but probably in most cases the necessary fixtures will go with the house. Elaborate fittings are quite unnecessary; indeed, fittings in the ordinary sense can be dispensed with. If the ceilings are low (not more than 8 ft. 6 ins.) the lamp-holders can be fixed direct to the ceiling without any fitting at all. A bare frosted lamp will, with the ceiling as a very effective reflector, provide a sufficiently uniform illumination; and, since its height places it outside the normal range of vision, the usual objections to the glare of a bare lamp will not apply. This system of backplate holders fixed to the ceiling might be employed in all rooms, so that the cost of fittings is brought down to the price of half a dozen lamp-holders. When the ceilings are higher than 8 ft. 6 ins. it may be necessary to elaborate the equipment to the extent of fixing ceiling roses with dependent cords, and, in such a case, shades or reflectors will be needed, because although a bare lamp looks very well on the ceiling, it does not look nearly so well on the end of a cord. However, the provision of shades might well be left to the tenant, who, in any case, would have to supply the lamps.

THE QUESTION OF SUPPLY.

So far we have purposely confined ourselves to the building economy aspect, because that is naturally the consideration of chief interest at the present moment to builders and architects who are called upon to design houses which can be erected at minimum cost. There seems to be no doubt that electric light can help very materially to reduce the cost of building; but even if that were not so, the undoubted economy in maintenance resulting from the use of electric light would make its installation well worth while. The difficulty is that in many districts where it is proposed to erect new houses there is not at present any supply of electricity. But as a rule the nearest supply authority will gladly extend its mains in order to make such an important addition to its consumers as would be represented by a colony of new houses. Arrangements should be made

with the authority or company before building operations are begun; and, if possible, it should be persuaded to run mains on to the building site at the commencement, so that constructional work may be facilitated and expedited by the use of electric motors for haulage, mortar mixing, the illumination of night work, etc.

Universal electrification is simply a matter of time, and it is also one of the essentials of national contentment and efficiency. The date of its realisation is to a great extent under the control of architects and builders who, being idealists as well as business men, should do all in their power to hasten the coming of the new era.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS.

After a long and somewhat heated discussion at the special general meeting of the Institute held on Monday last, the Council carried then resolution by a vote exceeding the statutory number of forty Fellows present against a minority of eight.

Owing to the action of a small number of members who were opposed to the policy of giving certain exemptions to candidates for the Associateship who had served in H.M. Forces during the war, no less than sixty-two of these demobilised officers and men who had just returned from service were blackballed last June. The Council determined in consequence of this indiscriminate action to do everything in their power to procure the election of these candidates, and resolved therefore to suspend for twelve months certain portions of By-laws 10 and 11. This resolution having been adopted, the candidates rejected as above stated will now be nominated for direct election at a general meeting of the Institute without the risk of their being black-balled again. This drastic method of dealing with the problem by the suspension of the by-laws induced some of the Fellows present last Monday to abstain from voting, who probably felt that the risk of dividing the ranks on so crucial a question presented many difficulties which, if possible, would be better avoided. The objectors to the proposal of the Council appear to have been almost entirely confined to the districts of Sheffield and Liverpool. No protests were received from other big centres or from the general body of members elsewhere. Evidence of approval was not lacking from Associates and Fellows present, and support in other directions was not lacking. The President of the New Zealand branch of the Institute said at the meeting that his society had adopted practically the same policy as the Council in London in dealing with demobilised candidates presenting themselves for election in that colony. The difficulty apprehended by the Sheffield society was most clearly set forth, and from Liverpool a more qualified protest was made. The chief objection urged by both bodies is seemingly confined to candidates who prior to the war failed to follow up their intermediate examinations by not taking their final test. It seems to be thought that individuals who had allowed their studies to lapse after say, the limited date of 1910 ought not to be admitted without complying with the statutory qualification, inasmuch as taking part in the war could manifestly make no difference as to the technical efficiency or architectural ability of any one.

At Monday's meeting the minority who supported the objectors stoutly protested against the suspension of any by-laws as unconstitutional, but at the same time several speakers who took that view ultimately expressed their willingness to this course being agreed to, provided the suspension was confined to Clause 11; or, with a view to compromise, they suggested that the Council should issue fresh balloting papers, giving the precise military record of the candidates, always, however, excluding those who had not gone in for the final examination previous to 1914, but who had been eligible as far back as 1910, this being the year fixed by a recent regulation decided on by the Council for the future.

Neither of these suggestions was adopted, and after the vote was given in favour of the suspension proposed by the Council, Mr. F. E. P. Edwards put in a formal protest, as he had previously intimated he should do, based upon the technical objection that the seven days' clear notice of Monday's general meeting had not been delivered, according to By-law 65, in some country districts, the evidence being belated postmarks on some of the envelopes.

THE DAWN OF ART.

Sir William Boyd Dawkins, the veteran Honorary Professor of Geology and Palaeontology at Manchester University, lectured to the members of the Rochdale Literary and Scientific Society in the Art Gallery last Friday night on "The Dawn of Art." Sir William's lecture was devoted to the expressions of art found in European caves, which dated back, he said, to an age so infinitely remote that it was quite impossible to estimate its distance in years. The caves of which he spoke were in England, Central and Southern France, and Spain, and from the fact that such different animals as the hyena and the reindeer were represented it was evident that at the period to which he referred Britain formed part of the great continent which stretched from the North of Africa to the Arctic regions. The forms of art included engravings on bone and ivory, and on the walls of the caves, frescoes in which the engravings were coloured in black, red, and yellow, sculpture in stone and reindeer antler, and in one cave in France clay models which had been preserved through the extreme dryness of the cave.

The subjects of this artistic expression were mostly animals or hunting scenes; in the few cases where human figures were shown they were distinctly inferior. But the animals were engraved with an extraordinary strength and economy of line; and an "impressionistic" engraving of a herd of reindeer in which the artist had gripped the salient impression of antlers against the sky was a really remarkable piece of work. As the lecturer pointed out, these engravings and frescoes were generally found in the darkest parts of the caves, and must therefore have been done from memory, showing a high development of observation and remembrance in the intellect of the cave men. It was indeed difficult to realise that such vivid expressions of art were scratched with a pointed flint upon the cavern walls such countless ages ago, and coloured with mineral pigment by the flickering light of melted fat, burning in a lamp of hollowed stone.

OBITUARY.

We regret to announce the death of Mr. John Dibblee Crace, which occurred on the 18th ult., at the age of eighty-one. Mr. Crace was the fifth of his family in direct descent to practise the art of decoration. When sixteen years old he joined his father in business, but he continued his education by various visits to foreign countries. He designed the decorative colouring of the "Victoria Hall" in Leeds and the Indian Room at the Imperial Institute. He was deeply interested in education on the technical side of decorative art, and took an active part in founding travelling student-ships. He visited Palestine in 1869, and soon after his return he became connected with the Palestine Exploration Fund, acting first as a member of its council, and finally as its hon. secretary. He published a book on "The Art of Colour Decoration," and he also occasionally exhibited small pictures at the Royal Academy. He was Master of the Paper Stainers' Company in 1884, a post which his father had filled in 1879, and his grandfather in 1851.

At a meeting of the Rochdale Housing Committee last week a circular was received from the Ministry of Health intimating that they are now prepared to sanction houses to the number of twenty per acre on vacant plots already laid out and gaved and sewered. The stone-laying of the first municipal houses took place yesterday.

HEALTH MINISTRY'S HOUSING REPORT.

New schemes submitted to the Ministry during the week ended November 22 numbered 510, bringing the total number of schemes submitted by local authorities and public utility societies to 6,618, comprising about 54,500 acres. The schemes approved now number 2,569, comprising 25,009 acres. The majority of the new schemes are promoted by Rural District Councils, and relate to sites averaging about $1\frac{1}{2}$ acres.

Schemes representing some 2,777 houses have been submitted during the week. The total number of houses in schemes submitted is now upwards of 64,300, and in schemes approved 50,386. Tenders have now been approved for 10,892 houses.

Some of the local authorities have experienced difficulty in obtaining the services of qualified quantity surveyors for their housing schemes. The Ministry of Health have accordingly been in communication with the Surveyors' Institution and the Association of Quantity Surveyors, who have furnished lists of their members, and these lists have been circulated to the local authorities.

Details of local authorities' schemes dealt with during the week are as follows:—

BUILDING SITES.

Schemes Submitted.—The number received from 102 local authorities was 308, comprising about 1,200 acres, and bringing the total number of schemes promoted by local authorities to 6,539, covering approximately 52,000 acres.

URBAN.	Areas.
Alford	1.50
Bedlingtonshire	13.65
Bingley	2.27
Bradford	80.50
Chatteris (5 sites)	4.74
Chipping Wycombe (2 sites)	30.00
Chesterfield (2 sites)	45.83
Denholme (2 sites)	2.00
Myddelwyn	—
Dukinfield	6.03
Gloucester (3 sites)	6.53
Hoole	8.61
Kingston-on-Hull	207.00
Linslade	2.00
Macclesfield	28.50
New Mills	2.66
Oxford (2 sites)	0.40
Penistone	19.00
Pontypridd	12.43
Presall (2 sites)	2.00
Ramsey (2 sites)	3.00
Rotherham	67.50
Rye	—
Stafford	30.50
Wandsworth	19.92
Woking	9.50
RURAL.	Areas.
Abingdon	4.67
Athwyl (4 sites)	6.36
Amersham .....	.72
Amesbury (5 sites)	7.90
Andover (6 sites)	18.08
Ashbourne	1.57
Aylsham (2 sites)	3.00
Basford (17 sites)	24.28
Battle	1.00
Biggleswade (6 sites)	14.05
Boston (4 sites)	3.05
Bradfield	0.50
Brixworth (9 sites)	9.00
Bromley (5 sites)	30.50
Bromsgrove	0.64
Bromyard (5 sites)	5.50
Chapel-en-le-Frith	2.00
Chesterfield	4.19
Cirencester	1.00
Cranbrook (4 sites)	2.35
Crick	1.75
Crickhowell (4 sites)	—
Devizes	0.33
Dursley (5 sites)	8.01
Easingwold (2 sites)	6.87
E. Grinstead (3 sites)	4.75
Eaton Bray (2 sites) and 1 not stated	3.00
Epson	2.00
Eton	8.00
Faringdon (3 sites)	1.75
Farnham (2 sites)	3.53
Fenchow	2.74
Glanford Brigg (8 sites)	8.75
Goldstone (2 sites)	2.50
Grantham	0.48
Grimsham (12 sites)	76.00
Hailsham (5 sites) and 2 not stated	4.25
Hitchin (4 sites)	6.41
Huntingdon	2.50
Isle of Wight	2.44
Kettering (2 sites)	3.00
Kingsbridge	0.50
Luton	15.35
Migor (12 sites)	10.25
Milton (12 sites)	4.83
Monmouth (13 sites)	—
Moulton	2.35
Neath (3 sites)	19.06
Newport Pagnell (4 sites)	9.17
Owen (2 sites)	2.40
Peterborough	1.65

Our Illustrations.

NEW PARISH CHURCH, ST. HELENS, LANCs.

The drawing reproduced was shown at the Royal Academy this year by the architect of this almost cathedral-like church proposed to be erected at St. Helens. The plan given with the perspective shows its capacious lay-out with the double aisles, big tower, and terrace approach on the north side of the building. Mr. W. Douglas Caröe, M.A., F.S.A., F.R.I.B.A., the architect to the Ecclesiastical Commissioners, has worked out his scheme with due regard to accommodating large congregations, and the side chapel will serve for small ones, having a special entrance of its own.

MESSRS. DICKINS AND JONES'S NEW PREMISES, REGENT STREET, W.

This sheet of details shows the pavilion of the Regent Street façade to a larger scale. The entire elevation was given in THE BUILDING NEWS for November 14, and the flank and rear fronts will be found illustrated in our issue of November 21. Messrs. Henry Tanner (Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A.), of Carlton Chambers, Regent Street, are the architects. The builders are Messrs. Higgs and Hill, Ltd., of Crown Works, Lambeth Road.

ADDITIONS TO AN OLD SUSSEX FARMHOUSE NEAR PETWORTH.

This Southdown stucco-faced and partly timber-framed house stands high and commands an extensive view of the Sussex Weald looking towards Horsham, and situated among beautiful surroundings. Local rubble stone is used in the walling and bricks for the chimneys. The newer buildings of the farmstead have brick quoins, and flints are mixed with the stone. The chief feature of this historic Stuart plain dwelling is a very capacious kitchen, providing ample space for the parlour. When finished, both the old and the new walls will all be white-washed. The aim in designing these enlargements and alterations, which include a new staircase and additional contrivances in plan, consisted in securing a homely result of traditional local character in an inexpensive way. The old picturesque timber well house being no longer needed, because a proper up-to-date water supply has been installed, gives an opportunity of employing the old hardwood weather boarding, as shown in the sketch, for the gable of the square bay. Mr. Maurice B. Adams, F.R.I.B.A., is the architect.

HOUSE AT DIGSWELL, HERTS.

This small house with stable block stands on a gently sloping site of about two acres. The outbuildings comprise coach-house, stable, harness-room and cycles, coal store, laundry, etc., and loft over. The plan shows the extent of the accommodation so far as completed. On the first floor are four bedrooms, house-maid's cupboard, linen store, bathroom, etc. The external walls are built hollow with 2½-in. cavity, and faced with Luton purple bricks with red quoins, the arches, bands, aprons, and weatherings being in roofing tiles. The brickwork throughout is built in cement mortar; the roofs are covered with boarding, felt and sand-faced tiles. The hood and entrance doorway are in oak, the floors throughout of pitch pine boards in 3-in.

widths and polished, the bedroom floors being pugged with slag wool. The contractors for the work were Messrs. Ekins and Co., of Hertford. Mr. Andrew Gray, M.S.A., of 64, Duncombe Road, Hertford, Herts, is the architect.

THE DEFECTS OF DECIMAL COINAGE.

In the November issue of "Business Organisation and Management," the excellent new monthly magazine published at 1s. 6d., for all engaged in commerce and industry, by Sir Isaac Pitman and Sons, Ltd., 1, Amen Corner, E.C.4, Mr. William Schooling, C.B.E., the eminent financial expert, has an article on Decimal Coinage which all should read who are perhaps unaware that Parliamentary faddists mean, if possible, to rush it through, just as "Daylight Saving" was foisted on us to the serious disadvantage of everybody.

We give one or two extracts. Says Mr. Schooling: "When the Eskimos first saw glass they mistook it for ice, and thought it would melt in their mouths. Observing correctly that it was hard, smooth, and transparent, yet their comparisons were incomplete and their conclusion was erroneous. It is much the same with the average advocate of the adoption of decimal coinage and the metric system. Conscious of a few advantages apparent to the most superficial observer, the more numerous disadvantages are ignored and the compulsory adoption of the system is urged."

"Any system of coinage is merely the machinery for the exchange of goods and services, and that system is most efficient which best facilitates the largest number of exchanges or purchases. For this purpose ready division is the important consideration, particularly in those small exchanges in retail trade which are the overwhelming majority of transactions. A shilling consisting of twelve pennies can be divided without remainder by two, three, four, and six; while one-eighth of a shilling is 1½d.; two-thirds of a shilling is 8d., three-quarters of a shilling is 9d., and five-sixths of a shilling is 10d. If we had tenpence to a shilling the only aliquot divisions would be 2d. and 5d. For the purposes of ready subdivision twelve is about the best number there is, and ten is one of the worst."

"No great stress need be laid upon the temporary inconvenience of making a change although this would be more serious than is frequently supposed. For example, there are in force in the United Kingdom about 40,000,000 industrial life assurance policies, with premiums payable in pence per week. If, according to some proposals, the penny became the 250th of £1, instead of the 240th, the life offices might be insolvent. If the penny became the 200th of £1 they would have more money than they would know what to do with; so it would seem that the policy contracts would have to be revised, in doing which the duration of the policies would have to be taken into account. Still, these and countless other inconveniences could be put up with if the community as a whole would gain by making the change; but even as things are, and while we preserve the crude archaic plan of counting by tens, the British coinage for the overwhelming majority of people is more convenient, and confers greater advantages upon the community as a whole than decimal coinage."

A new form of waterproof cement has been patented by Sir G. K. Scott-Moncrieff. It is made of about forty parts of oil shale residue and forty parts of Norfolk chalk, ground together and clinkered. The clinker is then ground and mixed with twenty parts of raw oil shale. The product may be used for making roads, flooring, roofing, walls, or for constructing culverts, etc.

At the Central Criminal Court last week, before Judge Atherley Jones, John Hester (39), plumber's labourer, was found guilty of perjury in evidence given by him on the hearing of an arbitration under the Workmen's Compensation Act at the Bow County Court on September 29. Judge Atherley Jones bound the defendant over in his own recognisances in £10 to come up for judgment if called upon, and he was discharged.

THE HOUSING PROBLEM IN GERMANY.

The Report of the Intelligence Department of the late Local Government Board, the receipt of which we briefly acknowledged last week, deserves careful perusal by all concerned. Germany had to face the housing problem long ago, her population having increased from 35½ millions in 1850 to 65 millions in 1910, and most largely and rapidly in the industrial dwellings and large towns, but though less so, still markedly in the rural districts. Huber published a book in 1857 on the subject of "Scarcity of Dwellings for the Poor in Large Towns." Engel, in a book entitled "The Dearth of Houses in Modern Times," published in 1873, stated that the scarcity of dwellings in Germany had become general among all classes of the population; it was no longer confined to the working classes. Schmoller, in his "Warning Note on the Housing Question," published in 1887, stated that the scarcity of dwellings in Germany was more acute in the eastern districts than in the industrial towns of the south and west, a statement which is borne out by other evidence.

Matters were growing steadily worse in the years immediately preceding the war, and the housing scarcity was assuming threatening proportions when war broke out—"saving the situation," to quote the words of Kuczyński, Director of the Berlin-Schöneberg Statistical Office. As the war continued, however, the scarcity became more pronounced in many towns, owing to the prevailing war conditions. War industries increased the population of some of the towns, while in others buildings were taken over by the military authorities, whole streets having been commandeered in this manner in Berlin. In some cases, too, houses were turned into factories for war material.

In normal times private enterprise is said to have been responsible for nine-tenths of all the dwelling-houses erected in Germany. Unfortunately for the rest of the community, too many private builders were men of straw, without capital or credit, who, we are told, put up unsatisfactory blocks of dwellings with the object of selling them at once to the readiest buyer. Many, again, were in a small way of business without sufficient capital to carry out their undertakings if any difficulty arose. As already shown, the provision made, especially of workmen's dwellings, was not sufficient to keep pace with the demand. Among the reasons assigned for this failure are the high price of land in the neighbourhood of large towns and the difficulty of obtaining sufficient capital at a rate of interest which could be covered by the rents charged. We should say that the increased, and probably equally unfair, taxation of land has quite as largely contributed to ruin the builder and stop house-building as it has done here. The great freedom possessed by the local authorities in Germany to levy taxes on real estate for purposes of local revenue, and the extent to which they have availed themselves of this power, have led to a very great variety of systems of taxation throughout the empire. In Prussia, in particular, the local authorities have been encouraged to develop their own systems of taxation according to their special circumstances, the land and building taxes previously levied by the State being transferred to them. These included charges on unbuilt-on land and on permanent buildings other than certain classes of public institutions, both charges being levied on the owner. The Property Transfer Tax levied on the value of real estate when a change of ownership occurs, and usually paid by the purchaser, has been pressed upon the local authorities by the Governments of Prussia and several other States, and has been very generally adopted by the larger towns. The tax on unearned increment is a progressive charge made on the unearned profits accruing from the sale of a piece of land. This tax had already been successfully introduced by many local authorities before it was generally applied by an Imperial law of 1911. Under this law the revenue from the tax is allotted as follows: 50 per cent. to the Empire, 10 per cent. to the Federal States, and 40 per cent. to the local authorities (who, as a rule, devote the

money to housing purposes). The Imperial Government renounced their share in favour of the local authorities for a time.

The failure of private enterprise to keep pace with the need for workmen's dwellings led to the creation of a number of co-operative bodies. These bodies were formed in various ways: they might be either limited liability companies, share companies, registered building societies, or ordinary commercial companies. The registered building societies confined their activities to building houses for their members only, the other bodies built for the general public, irrespective of membership. Where the initiative was taken by working men, or where it was desired to give them an opportunity of taking an active share in the undertaking, the registered building society was usually the form adopted. These forms of association are generally described collectively as "public utility organisations." As in the case of similar bodies in this country, the rate of interest on capital is limited. The activities of these public utility organisations were originally intended to supplement, and not to supersede those of the private builder, but in some districts a considerable part of the provision of small dwellings has devolved upon them. Building societies have become organised and extended during the last thirty-five years, the steady increase in their number being shown by the following figures, published by the Imperial Statistical Office in 1916:—

Year.	No. of Building Societies.	No. of Members.
1902	498	46,996
1908	848	148,114
1911	1,167	199,001
1913	1,469	210,257

A certain amount of capital for housing has been provided through the municipal savings banks. The Imperial and State Governments, in addition to direct subsidies, took a further step towards helping to provide houses by guaranteeing the payment of loans or the payment of interest on loans made for housing from other sources.

The present prospect as regards housing is not a hopeful one, judging from a survey by the weekly journal of the General Committee of German Trade Unions, of which a summary is given.

On the conclusion of the Armistice, the army was hurriedly demobilised, and the need of houses became more pronounced in consequence. The supply could not be appreciably increased because the surrender of rolling-stock rendered any movement of building materials impossible. Added to this, the scarcity of coal, partly due to the frequent mining strikes, had an adverse effect on the production of bricks, and there was also a scarcity of other building materials, such as cement and wood.

The Government tried to remove the difficulties by appointing District Housing Commissioners, vested with extensive powers, including the expropriation of land for building purposes and the provision of wood and stone. Owing to the shortage of coal and the absence of transport facilities already referred to, the work of the commissioners has hitherto been ineffective.

Efforts have also been made by the Government to improve the financial position of builders, the cost of building having risen enormously in consequence of increased wages and the high prices of materials. A grant of £25,000,000 for housing was made by the Reichstag in May, 1918; shortly before the revolution, the Housing Commission of the Prussian House of Deputies proposed a grant of £17,500,000 for housing purposes, to include loans on mortgage. The proposals were sanctioned by the Revolutionary Government on its accession to power.

An "Imperial Federation" has been formed with the object of introducing simple types of building in localities where certain kinds of building materials are easily procured; this applies to the use of substitutes such as loam, slag, concrete and wood; the federation also advocates the construction of standardised parts of dwellings. In country districts these suggestions may be practicable and may, to a certain extent, reduce building costs, but careful discrimination

will be necessary in order to avoid any lowering of the standard of living in this cheap type of dwelling.

The economic uncertainty of the future is another obstacle to any progress in building. It is possible that industrial centres, which, in the event of a successful result of the war, would have anticipated a considerable increase of population, may cease to increase or may even lose a large proportion of their population. Such an exodus took place during the war in some districts, notably in the centres of textile industry, that even now there is no shortage but rather a surplus of houses in those parts. In the event of nationalisation a "population movement" on a large scale may be anticipated. It is likely that, as a result of the war and of the internal political situation, a large part of the industrial population may migrate to rural districts; on the other hand, the impulse may be to emigration on a large scale.

This uncertainty as to the future is bound to tell on the building of dwellings in towns, or people will not be willing to build when the demand for dwellings may cease in a few years. On the other hand, a considerable amount of building might be started in country districts, and an Imperial Order of January, 1919, has facilitated the acquiring of land for home-colonisation purposes; so far the results have been, for the most part, confined to paper and very little practical work has been done.

Any clear forecast is impossible. The task of grappling with the problem will be beyond accomplishment if the work of rebuilding Belgium and Northern France is, by the terms of the Peace Treaty, to be provided free by Germany, especially when it is borne in mind that the necessity for industrial building will also arise with the gradual resumption of trade relations with other countries.

COMPETITIONS.

BIRMINGHAM CIVIC SOCIETY'S NEW COMPETITION.—With the approval of the Birmingham Town Planning Committee the Civic Society are offering a prize of £25 for a plan to preserve the character of the old village of Northfield within the South-west Birmingham town planning scheme. In their circular inviting plans, the society suggest that intending competitors should visit the village and study very carefully the problem to be solved, the grouping of the buildings, and all surroundings worthy of being preserved. Competitors are being asked to indicate any suggestions as to the removal of, or alteration to, existing buildings that may be possible in course of time to perfect their scheme; and also to suggest how increased facilities may be provided for present and future road traffic from the railway station to the main Bristol Road. At the same time they are reminded that it is most desirable that the present old world character of the group of buildings, the church, rectory, castle moat, Stone Inn, etc., should be preserved. The successful design will be submitted to the Town Planning Committee for inclusion in the district scheme as a model for similar opportunities elsewhere. Designs must reach the secretary of the Birmingham Civic Society at 37, Bennett's Hill, not later than February 14 next, and questions relating to the competition may be sent to that address on or before December 22.

St. Matthew's Church, Brixton, which was built to commemorate the Battle of Waterloo, is to be entirely remodelled as a local war memorial at a cost of £4,000.

The Wrexham Town Council has instructed the town clerk to purchase cocked hats for the members to wear on ceremonial occasions. Councillor Stanford said this was being done for the sake of uniformity, as they made fools of themselves on Peace Day. Surely none were fools' caps then?

An experiment worth watching is to be made at Norwich in connection with the city's housing scheme. Provided the scheme goes through, the City Council have agreed that thirty-two of the fifty-two houses on the Angel Road site shall be handed over for building to the Federation of Building Trades Operatives, under the supervision of the city engineer.

THE STRUCTURE AND PROPERTIES OF WOOD.

We have received a copy of the Proceedings of the Belfast Natural History and Philosophical Society (No. 3, 1919) containing an abstract of a valuable paper, by Mr. Arthur Deane, the Curator of the Belfast Municipal Museum, on trees, the characters, structure and properties of wood, with some notes on Forestry and Afforestation, which deserves the careful perusal of all architects, builders and users of timber. It is published by Messrs. Mayne, Boyd and Son, Ltd., 2, Corporation Street, Belfast.

The following extract suggests some very necessary points for consideration at the present time, when some of us, like Sir Charles Ruthen, are very seriously proposing the use of wood in house-building, while others are beginning to doubt the permanency of metal as a structural material.

TIMBER VERSUS METAL.

From the earliest times wood has been used in construction, and for making implements and utensils wherever it grew, at first by primitive stone tools, but later with metal tools, wood was more extensively used, and to-day, with the advance of civilisation, it is the most widely used material in spite of its replacement to some extent by iron and stone in buildings.

Timber used in construction has many advantages over metal.

Advantages:—

1. One great feature is that wood, being an organic structure, can be reproduced. The cutting of forests has advanced at a greater rate than they have been regenerated, yet, under a well conducted forest management, forests could be made to yield indefinitely. With inorganic materials such as metal and stone, the more extensively they are utilised the quicker the supply becomes exhausted with no opportunity to replace them.

2. Timber is stronger than is generally supposed. In tensile strength (resistance to a pull lengthwise of the grain) a bar of hickory exceeds a similar bar of iron or steel of the same weight and height. A 10 ft. beam of hard pine requires considerably more load to bend it by one inch than a similar bar of iron of the same weight and length.

3. Timber can stand a far greater distortion than metal without losing its power to regain its original position. In this way timber gives a warning before reaching breaking point. In many cases of damage or fracture it is easier to replace, and it can be shaped and reshaped with greater ease than metals.

4. 12-in. wooden beams, though combustible, require a good deal of heat to destroy them, because the surface becomes charred and protects the inner portion. Timber beams will often remain in position, after a fire, and carry a load, while iron and steel under the same heat would twist out of shape and fall.

5. Timber does not corrode like metal. It lasts longer, even without paint, in exposed situations. With metal, access to moist air must be prevented. Impurities in iron cause brittleness and weakness. Timber continually under water lasts longer than iron or steel.

6. Timber is a poor conductor of heat and electricity, it is pleasant to touch, is more artistic, and has a beauty absent in metal, and has none of the injurious effects of iron and steel.

7. Pieces of wood may be strongly glued together. Metals, on the other hand, would require welding or soldering. By too frequent reheating and forging wrought iron is weakened.

8. Certain timbers may be used for casks, remaining unaffected, and imparting no disagreeable flavour to their liquid contents, where metals would be objectionable or even poisonous. The elasticity of certain woods renders them superior to any metal for the resonant parts of musical instruments.

So far, we have been considering the advantages of wood over metal. We must not, however, overlook some of the disadvantages.

Disadvantages:—

1. Wood cannot be melted or cast. Rods, or thin sheets of wood, however, can be bent when steamed, and when reduced to pulp can be moulded into almost any shape.

2. It shrinks and expands with variations of moisture a good deal more than metal under ordinary variations of temperature.

3. Being more easily crushed than iron, it is not so well suited for bearing the greatest weight or for resisting heavy blows.

4. For commercial buildings greater strength is obtained in steel, less depth of girder is required, and thus a gain in height.

Sir T. G. Jackson, R.A., in his book "Reason in Architecture," 1906, p. 171, says: "Iron construction is really still in an experimental stage; we do not yet know how it will stand the test of time. Meanwhile, all experience hitherto tends to show that an architect who wishes his building to go down to posterity will do wisely to let iron play as small a part as possible in his construction. It has been prophesied that 30 years hence no one will employ iron in his buildings, at all events, as the main element in their fabric. The failure of a single tie-rod seems to have been the cause of the collapse of the roof at Charing Cross Station, and it is certain that no monster roof of that kind will ever be put up again. To say nothing of great railways and other engineering works, it is disquieting to think of the miles and miles of streets in London and other towns where the whole of the upper storeys rest on girders accessible to atmospheric changes, liable to rust and fatigue and possible injury by vibration, which no one can examine and which cannot be repainted."

It would be interesting to know the opinions of our local architects and civil engineers seeing it is 12 years since these remarks were published. Perhaps the best conclusion is a happy combination of both, because the properties of one so largely supplement those of the other.

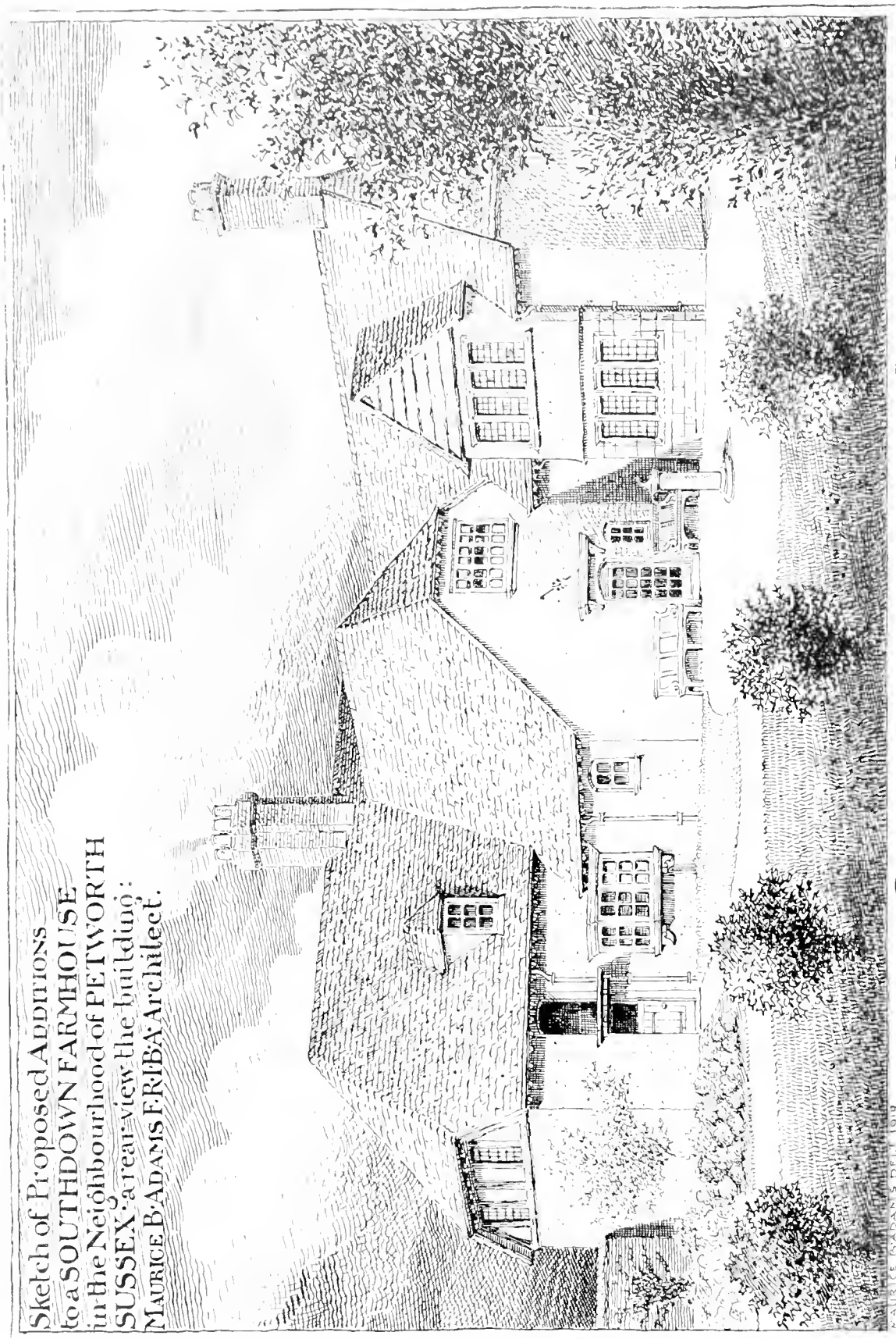
STATUES, MEMORIALS, etc.

EYE.—The war memorial screen and reredos were dedicated in Eye parish church on Wednesday week. The memorial is one of the most beautiful pieces of church woodwork in the district. The whole, which is of solid oak, consists of eight plain wall panels on each side, with a profusion of tracery decoration surmounting each. The reredos itself, and two carved panels on each side, bear in incised and gilded lettering the names of all men from the parish who have served in the Great War. The names of the men who made the supreme sacrifice hold the places of honour on the panels immediately right and left of the reredos. The reredos is of carved tracery work around three panels. The left panel bears, carved in high relief, a representation of a Sheaf of Corn; on the centre one is the Lamb of God; and on the right is the Vine. Carved around these panels is an enriched cresting of the vine, leaf and fruit, with moulding inlet with bosses. The complete work is by Messrs. Watkins and Stafford, of Fitzwilliam Street, Peterborough, who have also superintended the erection in the church and the thorough cleaning of the floor for the accommodation of the memorial. A Credence Table, the Children's War Memorial, was also dedicated.

In upholding an ejectment order against a tenant, a Divisional Court of King's Bench last Friday held that when the purchaser of the house had offered to live in two rooms and let the tenant have the rest of the house that was "alternative accommodation" within the meaning of the Acts. Alternative accommodation did not necessarily mean another house altogether.

The site on which a hall of the Ironmongers' Company has stood since the fifteenth century has been sold. The present hall was partially destroyed by a bomb during one of the German air raids, and the original idea was to restore it, the Company meanwhile occupying the Wax-chandlers' Hall, Gresham Street. The present hall, or what remains of it, in Fenchurch Street, was rebuilt from the designs of T. Holden in 1750, and the interior was remodelled and opened in 1847.

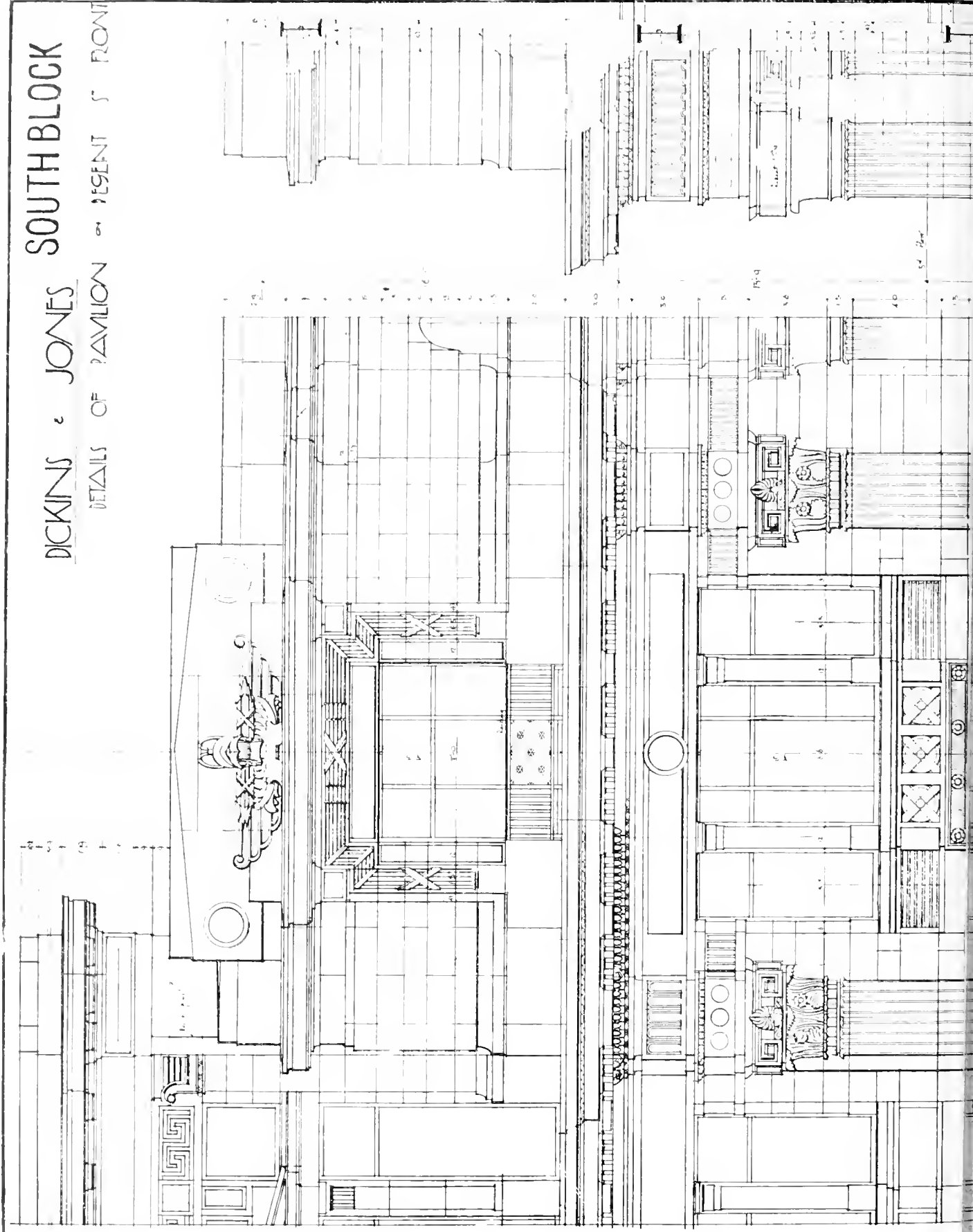
Sketch of Proposed Additions
to a SOUTHDOWN FARMHOUSE
in the Neighbourhood of PETWORTH
SUSSEX: a rear view the building:
MAURICE B. ADAMS FRIBA Architect.

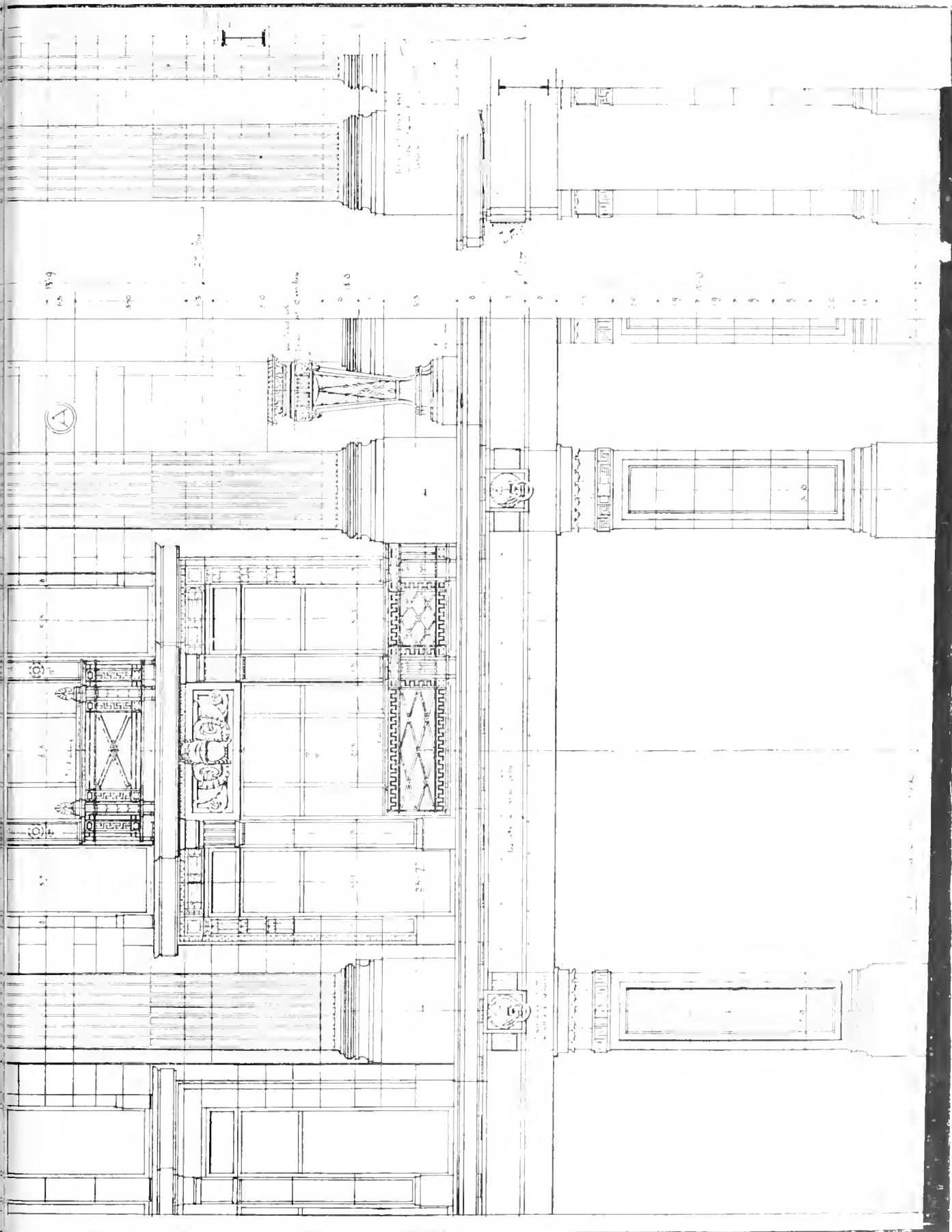


SOUTH BLOCK

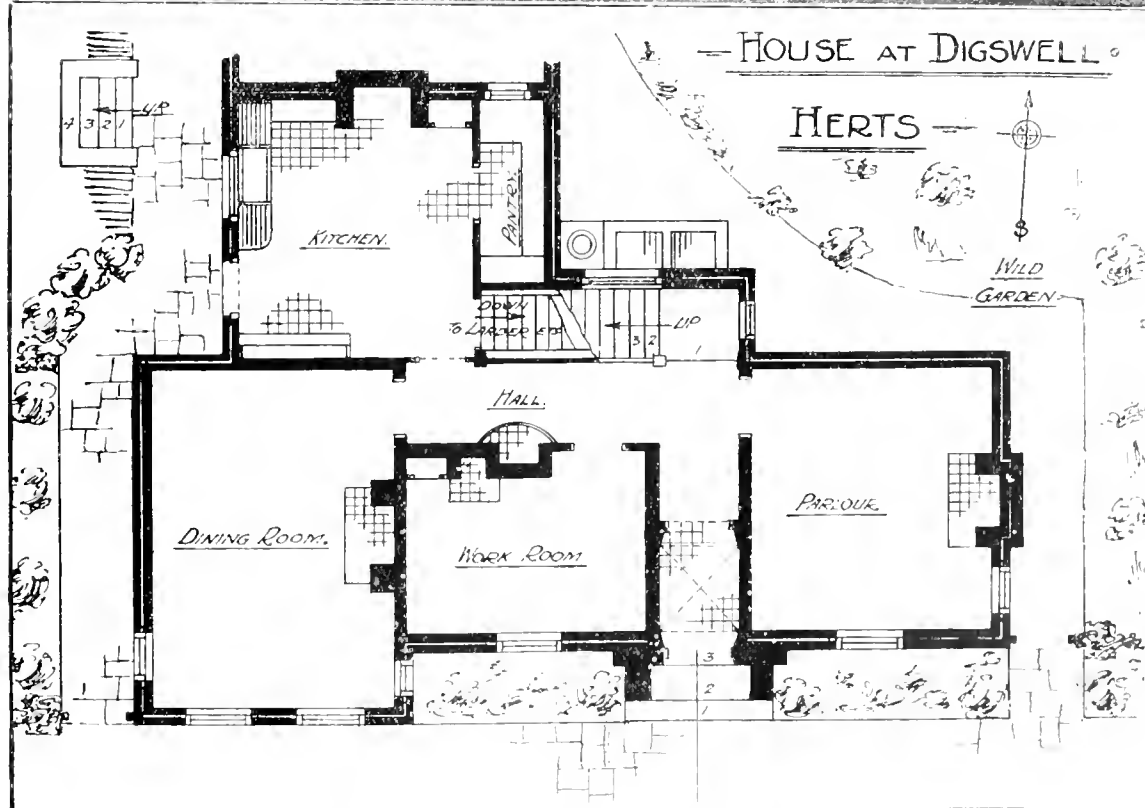
DICKINS & JONES

DETAILS OF PAVILION ON PRESENT S FRONT

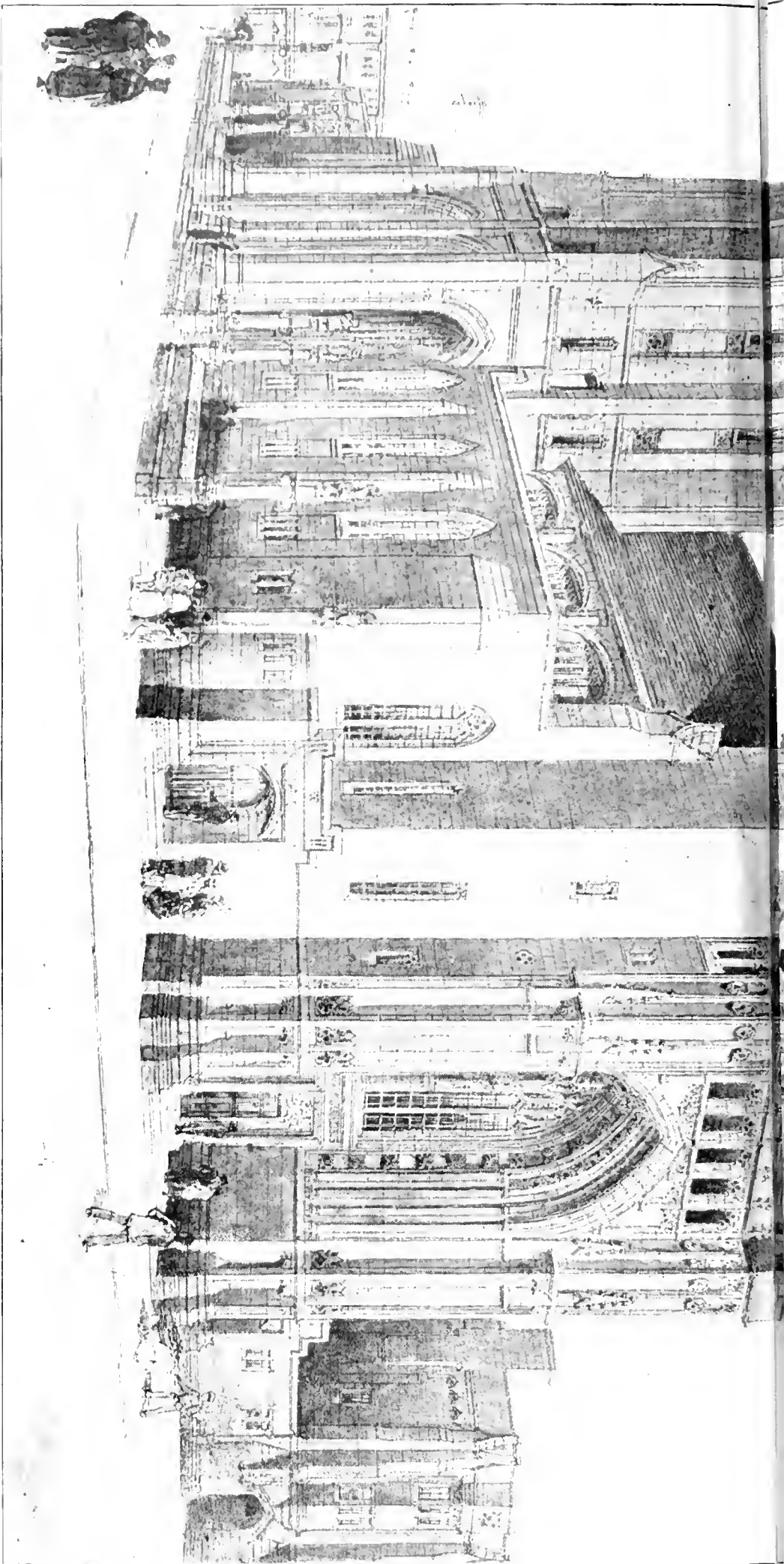




MESSRS. DICKINS AND JONES' NEW PREMISES, REGENT STREET, W.
Messrs. HENRY TANNER (Sir Henry Tanner, C.B., I.S.O., Henry Tanner, F.R.I.B.A., and E. J. Tanner, A.R.I.B.A.), Architects.

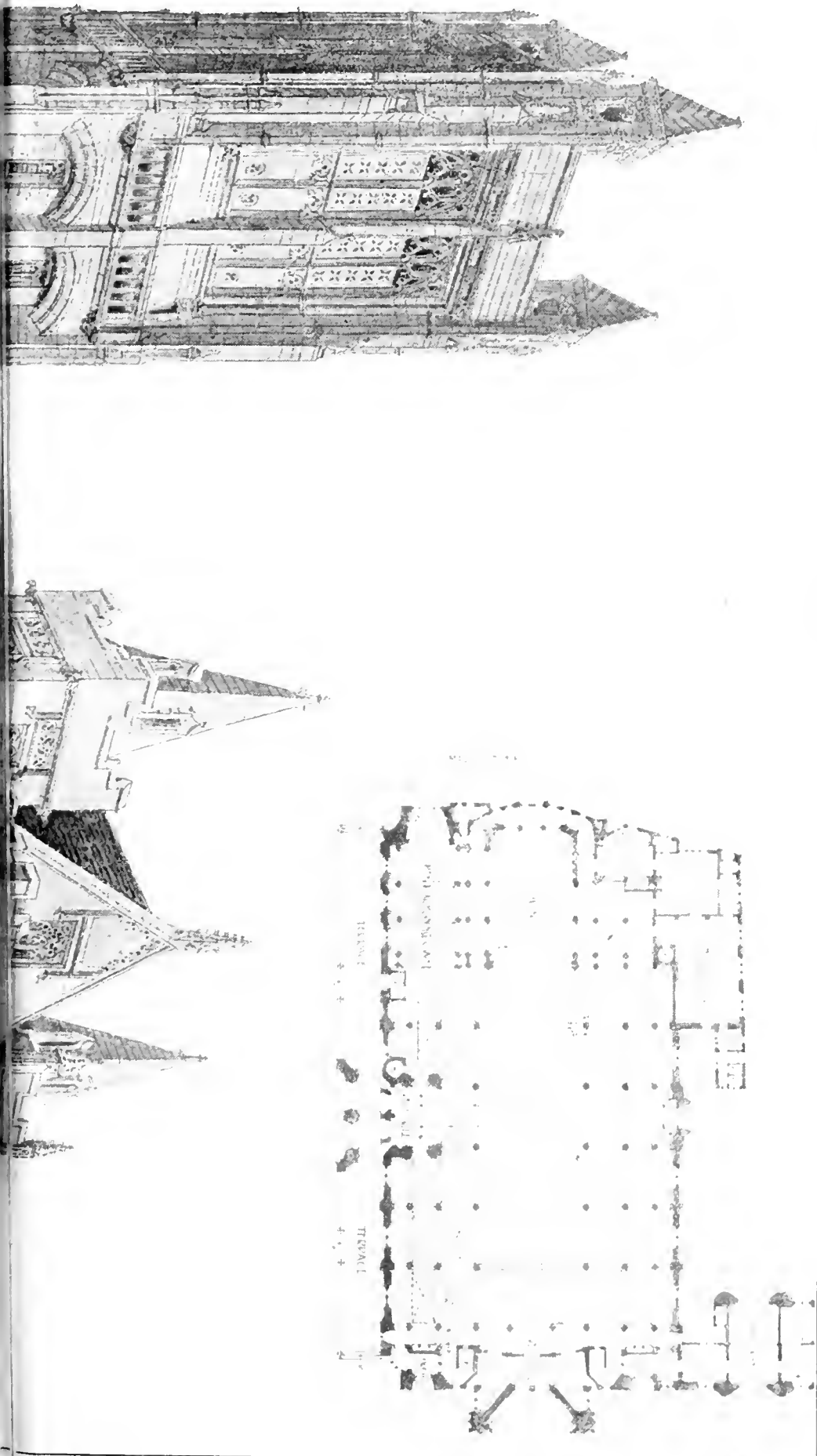


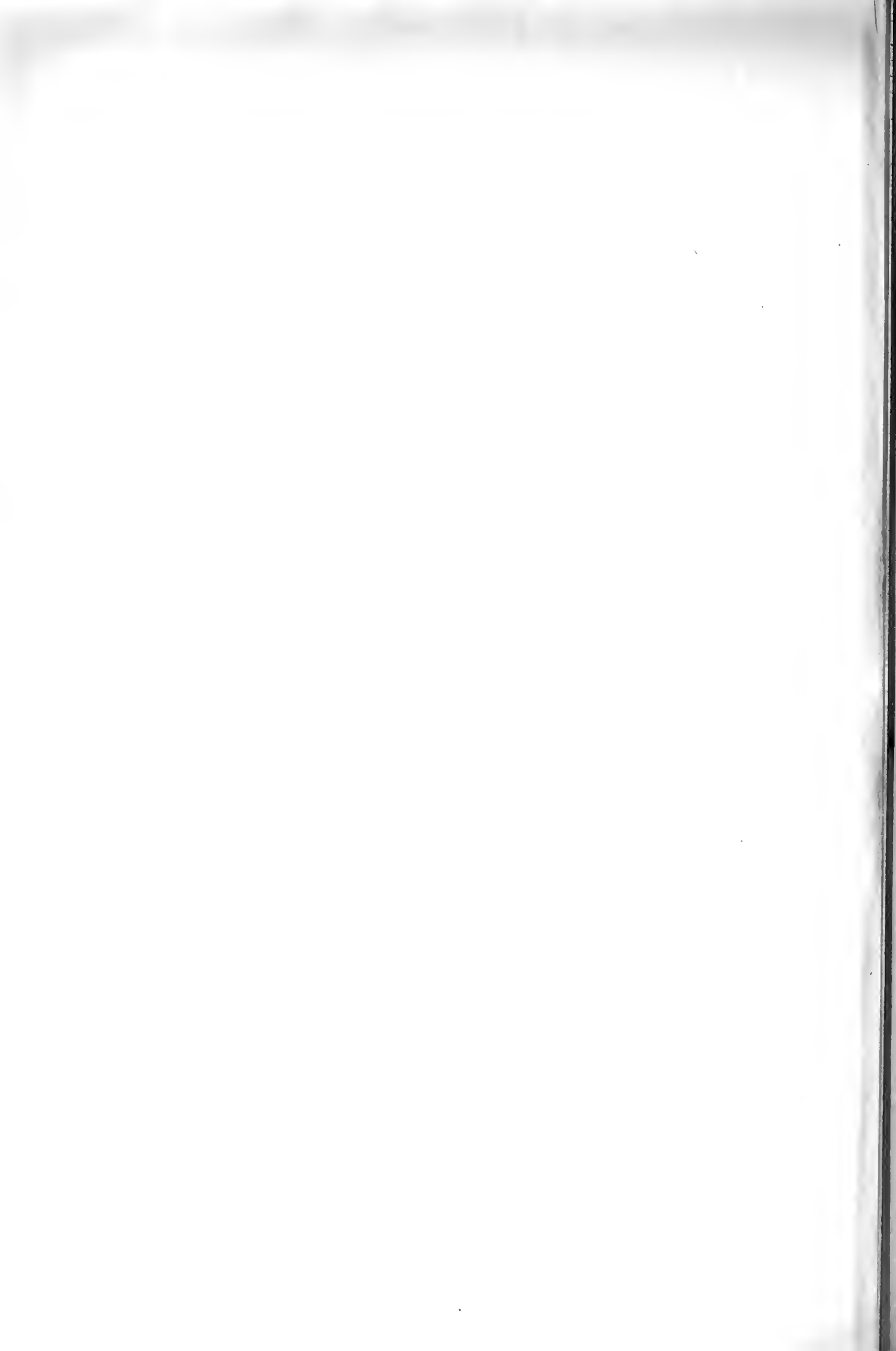
MR. ANDREW GREY, M.S.A., Architect.



NEW PARISH CHURCH, ST. HELENS, LANCASHIRE.
MR. W. DOUGLAS CAROE, M.A. Cantab., F.S.A., F.R.I.B.A., Architect.

THE BUILDING NEWS, DECEMBER 5, 1919.





DEAR WOOD AND THE HOUSING SCHEME.

The national importance of encouraging the use of home-grown timber, in view of a large increase in the price of the foreign product and its probable effect upon the finance of the housing scheme, was discussed at a meeting of the Council of the English Forestry Association, held at the Surveyors' Institution, Westminster.

Mr. Calder (chief of the Disposal Board of the Timber Supplies Department) informed the meeting that large foreign imports of timber had lately arrived in this country, but this was just the rush before the Baltic closed. There were large supplies at the Baltic ports which could not be got away. The Swedish importers were standing out for a considerable increase on the present price of timber. There did not appear very much likelihood of cheaper timber in this country before next summer.

Mr. M. C. Duchesne (hon. secretary of the Forestry Association) said this announcement imparted additional interest to the British Timber Conference, which was to be held in London on Tuesday, December 9. The housing scheme was of such great importance that it must not be allowed to be prejudiced or retarded by the action of Swedish importers or any other importers. The object of the conference was to develop to the fullest extent the consumption of home-grown timber, and to specially emphasise the valuable properties of British oak, e.m., beech, and other hardwoods, which might be profitably employed in the housing scheme. There were large supplies of certain classes of oak standing in this country to-day which could be used to the greatest advantage.

Mr. Calder said the Timber Supplies Department had sold a large amount of standing and cut timber which they purchased for war purposes, and on these sales, aggregating £1,000,000, they had made a profit. The manufacturers of aeroplanes had been much alarmed at the possibility of an exhaustion of the supplies of English ash. They said nothing could equal English ash for aeroplanes, and the department reserved a large quantity of this wood for the needs of those manufacturers.

Mr. Duchesne said that at the present time oak was almost cheaper than soft woods, and it would be far more economical to use home-grown wood.

Mr. Calder agreed, and said the Housing Department had given an order to the Timber Supplies Department for oak for window frames, etc., in a thousand houses. The Port of London Authority had purchased a large quantity of elm for covering the quays, and the City of Nottingham had recently given an order for wood for paving blocks. There would be a great demand for English beech in the furniture trade, and certain quantities would now be purchased for wood blocks or housing.

Mr. Duchesne remarked that he had seen splendid beech in Devonshire, and he tried to get it profitably conveyed to the furniture manufacturers at High Wycombe, but the heavy railway rates prevented this being done.

The President said he had been asked recently to supply a number of comparatively small orders of first-class oak for war memorials, which required seasoned timber. Had the Timber Supplies Department drying facilities of which those outside could avail themselves?

Mr. Calder: We have the room, and I could arrange for drying. The drying kilns of the Air Board and the Ministry of Munitions are to be obtained at practically scrap prices.

Mr. J. E. Blackwall, county surveyor of Cambridge, has been appointed county surveyor of Leicestershire at a salary of £1,000 rising to £1,200. He served his articles with the county surveyor of Notts (Mr. E. Purnell Hooley), and secured his first appointment as surveyor to the Bakewell (Derby) District Council. Mr. Blackwall served in the South African War and also in the late European War as Captain in the Sherwood Foresters (North Midland Division), being promoted to be Lieutenant-Colonel. He was also awarded the D.S.O. for distinguished service.

Building Intelligence.

ULDINGSTON.—Last Saturday afternoon the first brick in connection with the County of Lanark Middle Ward housing scheme was laid at Viewpark, Uddingston, on the rising ground on the north side of Edinburgh Road. The houses, 200 in number, are the first of the County of Lanark Middle Ward housing scheme, which provides for the erection of 5,000 houses in the centre of the county, 60 per cent. of which are to be three-apartment houses, 30 per cent. four-apartment houses, and 10 per cent. five-apartment houses. Mr. George Fraser (Motherwell), chairman of the Middle Ward District Committee, presided, and said good housing, he contended, was the bedrock of public health. It was no use spending money on sanatoriums as long as the patients, after recovery, had to return to insanitary homes. The Government had given them plenty of pledges regarding better housing, but no result, and the local authorities had taken the matter into their own hands, and he looked to contractors and ratepayers to give them every help. Mr. W. C. Whyte, clerk to the Middle Ward District Committee, who is the moving spirit of the scheme, said the cost of their programme would be four million pounds. Thirty-nine sites in the Middle Ward had been approved, and eight were under consideration. The average feu-duty worked out at £8 per acre, and the plans showed dwellings of two houses per block, with a few four houses to the block, and the cost per house about £750.

Correspondence.

THE R.I.B.A. AND BLACKBALLING.

To the Editor of THE BUILDING NEWS.

Sir.—In your issue of November 28, under "Notes," you refer to the pledges the war service candidates received.

When Associates of the R.I.B.A. joined the forces early in the war, they never considered it necessary to first extort pledges from a once dignified professional body that the distinction conferred on them by examination should not be filched while away in foreign lands.

Now, where is that distinction when all the debris is to be actually entreated to come in? Would not the more honourable course be for those Fellows who are so anxious to secure augmented funds to enroll these gentlemen in their own ranks, instead of thrusting them unwelcomed upon us; that is, if they cannot be coaxed into the Licentiate class where they obviously belong?

A 1914 SERVICE ASSOCIATE.

The Market Bosworth Rural District Council have passed the plans of twenty-five wooden houses to be built at Market Bosworth by a private firm.

The Wimbledon Borough Council have decided to mark their appreciation of the work of the late borough surveyor, Mr. Charles H. Cooper, M.Inst.C.E., by making him an honorary freeman of the borough.

Mr. H. S. Ganderton has been appointed a divisional surveyor under the Cornwall County Council at a salary of £295, rising to £330 per annum, with an allowance of £36 for upkeep of motor-cycle. Mr. Ganderton is an assistant in the borough surveyor's office, Torquay.

Mr. George H. Connor, of Forest Hill, S.E., has been appointed to the position of surveyor and sanitary inspector by the Wellington Urban District Council, in succession to Mr. G. Riley, who resigns at the end of the year. There were ninety-three applicants, and the salary is £300 a year.

In Mr. Justice Peterson's Court last Friday three employees of Messrs. Lever Brothers, Ltd., moved for an injunction to restrain the Amalgamated Society of Carpenters from expelling them from membership on the ground that they were taking part in the scheme of co-partnership which has been started by the firm. The motion was allowed to stand over until the first day of next sittings on an undertaking by the defendants not to take further action meanwhile.

PROFESSIONAL AND TRADE SOCIETIES.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.—An ordinary general meeting of the members was held on Tuesday, 25th ult., when Mr. Louis Giron delivered a lecture entitled "A Visit to Chester and District." The lecturer described the principal buildings in Chester, Liverpool, Shrewsbury and other towns visited by the members during a short stay in the Chester district last summer. The paper was profusely illustrated with lantern views from photographs taken by the members, and was followed with great interest by a large audience. Mr. Giron succeeded in giving those who had not been on the excursion a very vivid idea of the places visited. He expressed the view that on future occasions it would be better to limit the area to be covered, so as to give more time for detailed study.

EDINBURGH'S OLD CLOSES.—The second public lecture of the current season of the Edinburgh Architectural Association was given yesterday week in the College of Art Hall by Mr. Henry F. Kerr, A.R.I.B.A., F.S.A. (Scot.), Mr. T. P. Marwick, president, in the chair. Mr. Kerr's subject was "Old Edinburgh and Some of Its Buildings." The difference of set-out of the ancient city and the ecclesiastical township of the Canongate was pointed out. In the latter, houses of courtiers were set in gardens, but within the city walls the houses were packed in closes and piled story above story. Towards the close of the fifteenth century a move was made to give greater space among the houses, and small courts, like those at Riddle's Court, were formed, then larger ones a century later, like Milne's Court and St. James's Court, whereby more light and air were introduced into the alleys of the city. Later still this policy was carried out in Brown's Square, Argyle Square, and even beyond the confines of the old city wall in Allison's Square and lastly George Square. By these and subsequent "improvements" many old buildings had been removed, more particularly the ancient and characteristic Nether Bow Port, the Black Tumpike (in order to form Hunter Square), in the eighteenth century, and in later centuries Blackfriars Wynd, Advocates' Close, the Old Tolbooth, great parts of Castlehill, including the Guise Palace, Gourlay's House (Melbourne Place), and, most grievous of all, the sweeping away of the West Bow. Of the two hundred closes and wynds of the old city in the eighteenth century not one now remains, unless we excepted the restored White Horse Close, and of the two thousand old "lands" only twenty-two now remained. In the eighteenth century the clearing away of two or three old lanes did not matter much, but now, when only twenty-two were left, to clear away one meant the destruction of a large fractional part of the old town. Some people seemed to think that all old buildings were slums. Mr. Kerr pointed out that the old buildings were not admired because they were slums, but in spite of their being slums. The buildings were not to blame for their present state, but the occupiers were, and not until the moral of the people was improved would slums vanish.

The next ordinary meeting of the Liverpool Architectural Society (Incorporated) will be held at the Society's rooms, 13, Harrington Street, on Monday next, 8th instant, at 6 p.m., when Captain E. J. Rimmer will read a paper on "Building Contracts." Tea and coffee at 3.30 p.m.

The mischief in the roof of St. Helen, Bishopsgate, seems to have been located in the nick of time. The architect, Mr. F. L. Pearson, F.R.I.B.A., has found, as in the eastern half, traces in parts of the Nuns' Choir roof of the worm, which was still actively engaged in the work of destruction; but only at one point was the damage of a really serious nature, and that was in the last independent tie-beam from the west wall. It is particularly unfortunate that this beam is affected, as it is responsible for some of the support of the turret. The junctions of some of the purlins with this beam were in a decidedly parlous state, and it is fortunate that it was decided so promptly to take this roof in hand, and so avert in time what might have been a serious catastrophe.

Our Office Table.

We learn that Mr. F. J. L. Robertson, for so many years with Claridge's Patent Asphalt Co., Ltd., has now been demobilised from the R.N.V.R., and appointed as the London representative and manager of the Scottish Spearwell Co., Ltd., asphalt manufacturers and contractors, of Glasgow, whose London offices are at 199, Piccadilly, W., where he will be glad to receive inquiries and orders from his old clients and friends.

The Port of London Authority proposes to bring into use on March 31 next the new deep-water dock of 65 acres which has been constructed immediately to the southward of the Royal Albert Dock. Delays in the delivery of the lock gates and bridges will prevent the use at the date named of the lock, 800 ft. long by 100 ft. wide and 45 ft. deep below Trinity high-water, which will directly link up the dock with the River Thames. Access will, in the meantime, be afforded by a passage way, 100 ft. wide, connecting with the Royal Albert Dock at a point conveniently near the entrance basin. The necessary demolition of a portion of the Royal Albert Dock wall has already been effected. The new dock will have a depth of 38 ft., and will offer about 10,000 lineal feet of quays, fringed by capacious transit sheds, and intersected by railway lines and roads for passenger and goods traffic. A special feature is the provision on the south side of the dock of seven jetties of reinforced concrete, which will provide berthing for seven large vessels, and special facilities for the transmission of goods direct from ship to barge. This dry dock, which is 750 ft. long and 100 ft. wide, with a depth of 35 ft. on the blocks, will be the largest of its kind in the Port of London.

Thanks to the enterprise of such powerful firms as Bell's United Asbestos Co., and others, the marvellous extension of the uses of asbestos has so familiarised the public with its now indispensable aid that it is a little strange that books about it are non-existent—at any rate, those up to date. The need is well supplied by "Asbestos and the Asbestos Industry," by A. Leonard Summers (London: Sir Isaac Pitman and Sons, Ltd., 1, Amen Corner, E.C.4, 2s. 6d. net). For many years associated with the industry, avoiding tiresome technicalities, the author has given his readers a readable history of the wonderful mineral, which, though known to the ancients thousands of years ago, has only during the last fifty years "come into its own" as an almost universal auxiliary in so many of the arts and crafts of modern industry.

The Housing and Estates Committee of the Birmingham City Council, in a report presented at the meeting on Tuesday last, state that as a result of conferences with the Ministry of Health, various concessions have been obtained which completely remove a number of the restrictions under which they have been working, and, provided sufficient labour and materials are forthcoming, will enable more rapid progress to be made. As a further step in this direction, the committee feel they should be authorised to accept offers from builders and other persons, both for the purchase of partially developed land and for the erection of houses thereon, as and when received, if, on consideration, they are satisfied with prices and plans. By this method much delay will be avoided. They recommended, therefore, that they be given this authority within a limit of 1,000 houses for the present, and that the Finance Committee be instructed to provide such money as may be necessary for this purpose. All offers accepted will be subject to the approval of the Ministry of Health, and will in due course be reported to the council.

The Housing of the Working Classes Committee of the L.C.C., in a report to that body, state that the adoption of wood construction for cottages appears to be open to objection, and, although there would probably be a saving of time so far as erection is concerned, they do not feel that this, even in present circumstances, is sufficient to warrant the Council in deciding on this form of construc-

tion. The committee urge as disadvantages the necessity for periodical painting and the greater risk of fire, increasing insurance rates; they also argue that the laying-out will involve the need for greater space, that dry rot is a factor to be considered, as well as the forming of a harbourage for rats and other vermin. The period of the repayment of loans for wooden buildings, it is pointed out, is only forty years, as against sixty years in the case of brick buildings. The committee point out that the Minister of Health has approved a design for a one-story four-roomed bungalow, timber framed, estimated to cost £600, exclusive of water supply, lighting, drains, etc. These items, they say, would cost about £80, making a total estimated cost of £680. From tenders recently obtained, it was found that the price of a brick cottage on the Old Oak estate, with similar accommodation, including the provision of hot and cold water supply, drainage, fencing, and paths, would be £582 10s. The number of wooden bungalows to the acre would be about nine, whereas a larger number of brick cottages of a comparable type could be provided to the acre. The cost of lay-out and general development of land for wooden buildings was thereby proportionately increased. It is clear (the committee state) that on initial cost alone the wooden bungalow type under existing conditions is dearer than the brick cottage with equivalent accommodation. The committee state that they are considering the advisability of erecting concrete houses on parts of those estates where the requisite material can be obtained locally or on the site.

A letter from Lord Rosebery appeared in the *Spectator* on Saturday regarding an advertisement of the sale of Turnhouse Farm under the direction of the Ministry of Munitions. "I cannot help being surprised at this," Lord Rosebery writes, "because I am under the impression that the farm belongs to me, and not to the Ministry. At first this might seem to be due to adoption of Irish methods by our Ministers, but I do not wish to exaggerate and I do not think it is due to lawlessness, but simply to gross carelessness from the fact that the Government, during the war, have so abridged the rights of individuals that the numberless departments have come to the conclusion that these no longer exist."

Sir Banister Fletener, speaking last Monday night at the prize distribution of the Trades Training Schools at Carpenters' Hall, said the cry to-day was for houses and more houses. We must have material and plenty of it, but still more we needed good workmen. Rises in wages should go hand in hand with a rise in efficiency and improved mechanism, which would result in increased production. That was the object of the Trades Training Schools. Distributing the prizes, Bishop Taylor Smith Chaplain-General to the Forces, said that everything in life depended upon how one looked at things. In offices, in workshops and even in schools there were to be found side by side Dismal Jimmys and Sunny Jims. Let the students see to it that they were among the optimists and not the pessimists.

The Building Industries Consultative Board of the Royal Institute of British Architects, consisting of representatives of the Institute of Builders, the National Federation of Building Trades' Employers, the National Federation of Building Trades' Operatives, the Surveyors' Institution, the Royal Institute of British Architects, and the Society of Architects, have decided to issue a joint appeal to all members of the British building industry, calling upon them to unite in a great effort to overcome the difficulties which are at present hampering the industry. This appeal, which is signed by the chairman, Mr. John W. Simpson, president of the Royal Institute of British Architects, and by the vice-chairman, Mr. J. P. Lloyd, president of the London District Council, National Federation of Building Trades' Operatives, will be circulated throughout the whole country by the organisations above mentioned.

The Ministry of Health has issued volume one of a Manual on Unfit Houses and Unhealthy Areas, prepared in the Ministry of

Health. The object of the Manual is to give a general statement of the law relating to unfit houses and unhealthy areas, and of the policy to be adopted in administering it. Though intended primarily for the guidance of members and officials of local authorities, it will no doubt be of assistance to a large number of those who are interested in the housing problem from the point of view of enlightened citizenship. It will be seen that the first duty of the local authority is to make a survey of the area within its jurisdiction. Following on this, the local authority must submit proposals for dealing with the unfit houses and unhealthy areas disclosed in this survey. The situation will then be conditioned by the shortage of houses. Plans are given of a number of tenement dwellings and also plans illustrating the clearance and re-planning of slum areas.

CHIPS.

Sir Aston Webb, President of the Royal Academy, has accepted election to honorary professional membership of the Society of Scottish Artists.

The next ordinary general meeting of the Surveyors' Institution will be held on Monday, December 15, 1919, at 8 p.m., when a discussion will take place on the subject matter of the recent opening address of the President, Mr. Andrew Young, which dealt with the future policy of the Institution on the completion of its jubilee.

It has been decided to form a war memorial to those graduates and students of the Royal (Dick) Veterinary College, Edinburgh, who have fallen in the war. An influential committee will carry out the scheme, which, it has been determined, is to take the form of a memorial library, with the existing college library as a nucleus.

Mr. Jarvis, a retired builder, of Clare, Suffolk, was killed on Saturday morning last in a telescoped foremost coach of a train from Colchester to Cambridge entering Haverhill station during a snowstorm. His daughter, who was in the same compartment, escaped with a severe shaking, and a few other passengers were injured slightly.

The Bartlett School of Architecture, Session 1919-20.—A public lecture, entitled "American Architecture During the 17th and 18th Centuries," with lantern illustrations, will be delivered by H. D. Eberlein, B.A. (of Philadelphia), on Monday, December 8, at 5.30 p.m., at the University of London. The lecture is open to the public without fee or ticket.

At a meeting of the National Housing Campaign Committee, held on Monday under the presidency of Major J. R. Pretymann-Newman, M.P., it was resolved that the National Public Conference should take place at Cannon Street Hotel on Monday, the 15th inst., at 2 o'clock. Applications for tickets should be made to Mr. A. G. Westacott, 155, Fenchurch Street, E.C.3.

At a conference of co-operative societies and trade unions in Manchester it was decided to erect a large public hall for Manchester, at a probable cost of £500,000. A central site will be secured, and the building will be a landmark for the workers of the North. It is to contain suites of offices for trade union organisations, various-sized meeting-rooms, a restaurant, and hotel accommodation.

At Holwell last Monday morning, Mr. Foster Williams, the chairman of the Urban Council, cut the first sod in connection with the council's scheme on the Iford Fer site. Forty-two houses are to be erected for a start; a hundred and fifty more are to follow when the arrangements are completed. The contract for forty-two houses has been let to Messrs Roberts and Schloss, contractors, Liverpool and Prestatyn, at £31,000.

At Monday's meeting of the Nottingham City Council, the town clerk read a letter from the Citizens' and Ratepayers' Association enclosing a letter which it proposes to despatch to the Premier, pointing out that Nottingham is one of the highest rated cities, and requesting Mr. Lloyd George to refuse the proposed presentation of the Freedom of the city, having regard to his own views on economy. "We refer," the letter proceeded, "to the silver casket which we shall have no objection to, providing the city fathers personally foot the bill." The Mayor: What shall we do with the letter? There were two suggestions—(1) that it be burnt at the Easterot, and (2) that it be referred to the Asylums Committee; but it was allowed to remain on the table.

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AND ENGINEERING JOURNAL.

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Strand, W.C.2

OUR ILLUSTRATIONS.

Proposed New Theatre, Charing Cross Road, London. Mr. Frank T. Verity, F.R.I.B.A., architect.
Public Offices and Fire Brigade Station, Harrow, Middlesex. View of exterior, the Council Chamber and sheet of three plans. Mr. Harry Prince, A.R.I.B.A., architect.
The Chydioke Tomb, Christ Church Priory, Hants, from a water-colour drawing by Mr. James Burns, I.S.O.

Currente Calamo.

With ordinary politics we have little to do in these columns; but we cannot but record a flat denial of the proposition laid down by Mr. Lloyd George last Saturday at Manchester that there is a "new challenge to civilisation which affects the whole habits of society." "It is the view that private enterprise is a failure, tried and found wanting—a complete failure, a cruel failure. It must be rooted out and the community must take charge as a community to distribute as well as to control." With this view Mr. Lloyd George contrasts the principle that while the State must educate, assist, and, where necessary, control, "life springs from individual impulse and energy." The issue between these views is the "earth-shaking question" before which the Anti-Dumping Bill shrinks into insignificance. We are, in short, invited to close our ranks on the question of nationalisation, and those of us who believe in individual impulse and energy are to be folded with the sheep against the goats of Labour who hold private enterprise a failure. What, so far, of late has State initiative and State management done for us? The State has assumed the function of the landowner dictating how lands should be used. Another "great Act" is the Housing Act, by which we have already acquired "types" for "hundreds of thousands" of houses. Some wish that we had acquired the houses themselves. But in the meanwhile the State, again with Mr. Lloyd George's applause, has killed private initiative in building and become the great builder. The State has become the great super-carrier. With what result? He does not say quite so much about mines, but his Anti-Dumping Bill gives to a Government Department a detailed supervision of the import trade, which goes a great deal beyond the general restrictions contemplated by ordinary Protectionists, and it is for this reason that it is particularly unpopular.

Good forms of control are those which, regarding industry as a public service, seek to enlist the goodwill, the intelligence, and the initiative of industrial trade in the execution of a common task. Bad forms of control are those which leave land and capital in possession while depriving them of all their functions, remove the

incentive to gain without substituting that of public service, treat labour as an enemy and the consumer as a man to be bullied, cajoled, or bribed as occasion serves. The control of coal to-day is such that miners, owners, and consumers are equally dissatisfied. The control of railways leaves the suburban traveller packed eighteen in a compartment as a regular incident of his daily journey. The control of houses is such that people are paying rents for rooms in workhouses. This is the system which Labour and Liberalism alike desire to end. All this we believe might be ended by a return to private enterprise; but Mr. Lloyd George's alternative is to go forward to responsible public ownership. It does not follow that the whole system of industry must be revolutionised. Public ownership might work well in some conditions and ill in others, but the question of its ultimate extension is *not* a dividing line of parties in the present. Liberalism, Labour, and Unionists all condemn the failure of the intermediate system of control so lauded by Mr. Lloyd George. It has given us all the worst of Socialism and none of its promised best. It has given us a bureaucratic machine without efficiency, the responsibility of management without the profits of ownership, the extension of free initiative without the appeal to social service. It is, in fact, a fraud, and its advocacy by Mr. Lloyd George is discouraging to all who are asking to be let alone and do our best for the common good.

The Ministry of Munitions has issued a reprint of the Report published early this year by the late Munitions Inventions Department on the possible utilisation of building materials either native to this country or waste products from manufacturing processes. The Department, like many others instituted by this Government of many Ministries, was not a long-lived one; indeed, the well-known epitaph on the tomb of the dead infant—"What was I begun for, when I was so soon done for?"—might well have prefaced the Report. The object of the inquiry was to find out how far other materials than clay bricks and Portland cement were available, and in what way they could be utilised. The idea underlying the investigations of the Committee was that there are materials which, while they would be rejected by the engineer as not giving the highest degree of strength

for a limited bulk and weight, are quite sufficiently strong for cottage construction, and are at the same time durable. If their investigations had been continued, they would have inquired into cheap local material suitable for aggregates, such as chalk; and into the use of ground blast-furnace slag, hydraulic limes, and ordinary lime, mixed with lightly burnt clay in place of Portland cement and other similar matters, the aim being to select materials which require a small consumption of fuel for their preparation. The principal subjects of inquiry have been the manufacture of bricks from sand, clinker, burnt shale, and blast-furnace slag, mixed with lime pressed and steamed, and the possible uses of plasters made from gypsum for constructional work; in addition, the Committee prepared a memorandum on possible waste substances for the manufacture of building materials, has obtained information on other allied matters, and has carried out various experiments and researches. The information obtained will be found in the Report. There is little which we have not given from time to time in our own pages.

The Press day yesterday and the private view to-day left us no opportunity of a detailed notice of the Soldier Artists' exhibition at the Royal Academy, which will open to-morrow, and which we hope to say more about next week. The Imperial War Museum possesses a very large number of paintings, drawings, and prints of the war, and the selection now hung at Burlington House represents the finest of them. Mr. Sargent, Sir William Orpen, Sir John Lavery, and other artists have generously agreed to paint panels for the collection. But the show is mainly an exhibition of soldier pictures. Nearly all the younger artists have served in the Army, most of them in the ranks. Some of them, such as Captain Henry Lamb, who won the M.C., have distinctions gained in the war. One man has five wound stripes. A few, such as Mr. Hanley Spencer, have served as hospital orderlies. The exhibition, in fact, for the first time in history, is one of war represented by the men who fought in it, and who seek to give us not only what they saw, but what they felt.

Rochdale seems to be getting its full share of the red tape of the Ministry of

Health! At its meeting last week the Town Council accepted tenders for sixty more municipal houses. The price of the smaller type varies from £953 to £955 per house, and the larger type range from £997 to £956. The amounts are heavy, and are in excess of the average price for houses of the parlour type, with three and four bedrooms, approved by the Ministry of Health up to November 8. We are constantly being told by the Ministry how anxious they are to push on with building. Yet Councillor Shawcross assured the Council that the tenders for these houses were sent to the Housing Commissioner for his approval weeks ago, and, in fact, building might have begun three months since but for the red tape and paraphernalia of the Ministry. Speaking on the employment of two further assistant architects, Mr. Shawcross said that if the work had been put into the hands of local architects, paid on the scale originally laid down by the Ministry, the cost of this professional assistance, for 2,000 houses at £935 each, would have been, with eight architects, £32,000, whereas it was costing under the Committee's arrangements £2,470 a year. Alderman Cunliffe put in a plea for a more modest scheme of 600 or 700 houses pending less stringent building conditions, and suggested consideration of concrete houses. To this Mr. Shawcross replied that the latter were unsuitable for Rochdale, and that before long they would be out of the question anywhere owing to the lack of cement.

The sequel to an interesting Southport application for possession of a house was heard on Monday. The applicant, who has to leave his present lodgings under an ejectment order made by the magistrates, purchased two houses in Athole Grove, Southport, last June, and a week ago asked for possession of one of them. The present tenant pays 7s. 9d. weekly, including rates, and this amounts to £20 3s. a year. It was submitted, on behalf of the applicant, that the rates did not form part of the rent in the Acts, and that consequently the actual rent was not £20. The Law-clerk said he could not find any reference to rates not forming part of the rent. Mr. K. Brighouse, who appeared for the respondent, said he had looked up the point, and found he had no ground for proceeding with the application in the police-court. The application was formally struck out. It was subsequently pointed out that this means that where rates are compounded they form part of the rent for the purpose of possession orders, and if the total amount paid to the landlord for rent, including rates, exceeds £20 a year, the application must be made in the county court. So the point, we suppose, will be argued there, and not improbably elsewhere afterwards.

The Council of the Royal Institute of Public Health has appointed Professor Maurice Nicoll, of the Pasteur Institute, Paris, Harben Lecturer for 1920.

Mr. E. Guy Dawber requests us to announce that on and after the 22nd inst. his business address will be 13, Maddox Street, Hanover Square, W.1, and his new telephone number 4955 Mayfair.

THE HOUSING BILL.

The jibes of the *Times* that the suspicion is growing that the Housing policy of the Ministry of Health is another proof of the fact that it is no cure for a cold room to warm the thermometer, and of the *Morning Post* that Dr. Addison reminds one of the philosopher who cut a large hole for the cat to go through and a smaller hole beside it to facilitate the entrance and exit of the kittens, were more than justified by the lame defence offered during the eight hours' debate on the Housing Bill on Monday last of the quick changes already made in its provisions since a professed summary of the Bill was issued last week. That summary is altogether altered by the White Paper which was issued on Monday night, which we give below. It is more than evident that what Dr. Addison is aiming at is to get from Parliament another instalment of the absolute power—such as the Postmaster-General has been invested with for so many years—to make any rules and regulations he pleases. On this rock the Housing Scheme will split to pieces, simply because neither municipalities, nor the public utility societies, nor the private builder can be certain for even a week that the presumable inducements offered to-day may not be summarily withdrawn to their disadvantage to-morrow, thanks to some bee that has got into Dr. Addison's bonnet, or stung Sir J. Tudor Walters into some mischievous manifestations of his "surprise if even this Bill was the last word."

Even if the Government keeps its last promises, all who know the facts are convinced that the proposed subsidy is a mere temporary expedient, and will leave us sooner rather than later face to face with the real problem: how to get the houses on an economical basis, but will add to the present confusion, especially if the Rent Restriction Act ceases to operate. Presently there will be the competition of existing houses with houses to the cost of which the State has contributed, and houses which it may be supposed will be built at high cost without State doles, and for which presumably an economic rent will be charged. What will happen then no one can foresee, but so far the alternatives seem economic rents which will upset all present calculations as to wages, or a continuance of the subsidy system now adopted as a means of tiding us over the difficulties of the moment.

But will the new subsidy system work, even with the release of the Government stocks of materials held up so long, which Dr. Addison promises on New Year's Day? Comparatively small builders have at present more work in hand in repairs than they can overtake, and they prefer that, which requires the minimum of capital and yields a quick return, to tying up their money in the building of houses which legislation might require them to let at unremunerative rents. The present Bill takes power to prohibit works or building which "are of less public importance" than dwelling-houses, and also alterations or additions, but the work as regards repairs, the arrears of war-time, is demonstrably necessary. Much of it affects dwelling-houses which are on the verge of becoming uninhabitable, and to prohibit it would merely aggravate the existing shortage. So long as they can find scope for their activities in that direction, the small builders will not turn their attention to new construction. Moreover, the Bill may withdraw labour and material from the schemes of the local authorities. The text of the Bill gives no indication how that is to be prevented.

In the debate on Monday Mr. Trevelyan Thomson moved the rejection of the Bill.

He contended that there was nothing in it except the subsidy which could not be done under the last July Act. That Act had not failed. The present Bill was jeopardising and hindering the work local authorities were doing. They were now going to subsidise the jerry-builder and the speculator. There was no barrier to private builders building houses and selling them at a profit to-day, without the need of any subsidy. By this proposal the Government was going to delay things immeasurably.—Major Barnes seconded, believing that the effect of this measure would be to hamper and to impede the great work to which Dr. Addison set his hand some four months ago.—Lord Robert Cecil touched the root-cause of all our troubles when he declared that he regretted there was no provision in the Bill for abolishing the increment duty in respect of building land. It had produced no money. It served a useful constitutional purpose in getting a quarrel with the House of Lords. Having served its purpose it had better be buried.—Sir Donald Maclean (L.) said it would be a public calamity if this Bill, when it became law, was used as an instrument for devitalising the greater measure of July last, to which they had looked forward for a great improvement in the housing problem. Mr. Lorden urged an extension of the limit fixed for the subsidy. The shortage of houses for the middle classes was quite as great as for the working classes, and these should be built also. The middle classes would have to find most of the money for the subsidy, and were entitled to far more consideration by the Government than they were receiving. The Bill was ultimately read a second time without a division, but the general opinion of the House of Commons beyond doubt was that the subsidy will not make the building of houses at anything like old rents an attractive commercial proposition. The root question is whether the rent of working-class houses is to rise in proportion corresponding to the rise of everything else, or whether it is proposed to give a subsidy to rent, which we are presently going to withdraw even from bread. If the last alternative is the one favoured, then the Bill is only the first of more demands for further subsidies and hostile to the Government's proclaimed policy of getting rid of subsidies at the first opportunity. If there is to be an economic rent on houses, instead of subsidies, the only wise course is to remove all the artificial obstructions to building and to leave the rest to private enterprise. If the Government insists on keeping the housing in its own hands and preventing anybody else building, the situation will go from bad to worse, and ultimate and early shipwreck will follow.

An estimate of the probable expenditure under the new Housing Bill and details of the conditions governing grants to private builders was issued last Monday night as a White Paper.

The aggregate amount of grants to private builders for the United Kingdom will not exceed £15,000,000, the greater part of which will be required to be provided in 1920-1921. The increased grants to public utility societies and housing trusts, based on the assumption that they will provide 10,000 houses, are expected to involve during each of the years up to March 31, 1927, an additional expenditure of approximately £100,000, while those to County Councils for houses built for their employees are estimated at not more than £30,000.

It is proposed that payments shall be made to any persons or bodies of persons who construct houses in accordance with specified conditions and complete them within twelve months from the date of the passing of the Act, or such further period, not exceeding three months, as for special reasons may be allowed, subject, however, in this case, to a proportionate reduction in the amount of payment.

The proposed payments, which will vary with the accommodation provided, will be, in the first instance—

Cottage containing living-room, parlour, three or four bedrooms, and comprising not less than 920 feet superficial of floor area, £100 per house.

Cottage containing living-room and three bedrooms, floor area 780 feet, £140.

Cottage containing living-room and two bedrooms, floor area 700 feet, £130.

No grant is to be made for houses with accommodation in excess of four bedrooms, or which have a superficial floor area exceeding 1,250 feet. Upon approving the plans the local authority will notify the person constructing the house of the amount for which he will be eligible, and payment will be made on a certificate of the local authority that the house has been completed in proper and workmanlike manner. These conditions may need to be varied in some respects in Scotland to meet local requirements.

THE BURLINGTON FINE ARTS CLUB.

A small but very interesting collection of thirty-six pictures, mostly of Dutch and German masters, supplemented by a selection of some good decorative furniture and other objects of art, will be thoroughly enjoyed by all who see it at the Burlington Fine Arts Club.

No. 1, "The Resurrection," lent by the Earl of Northbrook, is attributed to Carlo Crivelli, of the Venetian school (1430-1493), and is referred to in Crowe and Cavalcasello's "History of Painting in North Italy," 1912, i., 92. "The Virgin and Child" (2), lent by Mr. C. B. O. Clarke, from the Linnell Collection, 1918, is by Quentin Matsys (1460-1530), and is a good example of his style. Mr. Otho Britland's "A Winter Scene" (6), by Jan Van de Cappelle; "The Cornfield" (18), by Jacob Van Ruysdael; and "Sir John Clark, Bart., and his Wife, Rosemary Dane" (21), by Sir Henry Raeburn, R.A., painted about 1790.

In addition to the one first mentioned, the Earl of Northbrook lends "The Waggon," by Rubens (9), exhibited at the Royal Academy in 1872; "The Tired Nurse" (15), by Nicholas Maes; "The Intruder" (19), by Gabriel Metsu, shown at the Royal Academy in 1871 and 1889; "The Pet Parrot" (23), by Pieter de Hooch; and "Starting for the Chase" (24), by Jan Hackaert.

Viscount Lascelles lends "St. Sebastian," by Thomas de Keyser (12); "The Triumph of Julius Caesar" (32), by Francesco Di Giorgio; and "The Assumption of the Virgin" (35), a sketch, slightly differing from the finished version, for the picture now in the Seville Museum.

Lord Leverhulme contributes a small "Caravan Scene" (22), by John Constable, R.A.; "The Novice" (20), by Sir J. T. Millais, P.R.A.; "The Virgin and Child, with Angels," by some artist of the Catalan school about the fifteenth century, exhibited at the Spanish Exhibition at the Grafton Galleries, 1913-14.

Among others should be mentioned "The Descent of Christ into Limbo," by Marco Basaiti (3), lent by Mr. F. N. Schiller; a "Portrait of the Emperor Maximilian" (5), by some sixteenth-century German painter, lent by Sir Francis Crawley-Boevey, Bart.; "Pope Pius VI. blessing the People from the Loggia of the Scuola Di S. Marco at Venice," 1782 (4), by Francesco Guardi; "Ceres" (7), a nude of the Fontainebleau school, lent by the Earl of Crawford; a "Portrait of Caroline, Lady Holland" (16), by Allan Ramsay, an interesting letter from whom to Lord Holland is quoted, lent by Mary, Countess of Ilchester; a "Study of the Nude" (17), lent by Mr. F. A. White; a portrait said to be that of "Thomas Cowper the Poet" (26), by Thomas Gainsborough, R.A., but more probably, as suggested, that of a member of the Throckmorton family, lent by Mr. Bower Nichols; and a "Landscape," by Cornelis Hendriksz (34), lent by Mr. Robert C. Witt, more than ordinarily interesting, because the artist's works are very rare, the only known examples being those

in the Berlin, Copenhagen, Schwerin, Bremen, and Hermitage Galleries.

The furniture consists of some good tall case clocks by English makers, including one by Peter King of St. Gilles, lent by Lord Leverhulme; a good many chairs, one of the most interesting is "The Exchequer Chair," originally in the old Exchequer office in Old Palace Yard; another, that of the Master of the Fruiterers' Company of London, lent by Lord Leverhulme; a Queen Anne walnut table, lent by Mr. E. B. Ellice-Clark; a quaint old "Gothic Cupboard," lent by Mr. W. E. Tower; and a good French secretaire of the period of Louis XV., lent by Viscount Lascelles.

Our Illustrations.

PROPOSED NEW THEATRE, CHARING CROSS ROAD, LONDON.

The drawing reproduced on our double-page plate to-day was exhibited at the Royal Academy this year. Mr. Frank Verity, F.R.I.B.A., of Sackville Street, W., is the architect of the intended building which will occupy an island site as shown in this perspective.

PUBLIC OFFICES AND FIRE BRIGADE STATION, HARROW.

The photographs reproduced to-day in illustration of this building were exhibited at the Royal Academy this year. Lord George Hamilton opened these municipal premises, which have been completed from the plans of the architect, Mr. Harry Prince, A.R.I.B.A., of Westminster. The plans show the arrangement of the offices, council chamber, and fire station set out on an irregular site facing High Street in front and Byon Hirl Road to the rear. The walls are built of purple brick with lighter-coloured bricks round the windows, and the porch, plinth, and cornice are in Portland stone so designed as to harmonise, as far as possible, with the surrounding buildings. The roofs are tiled. Fire-resisting construction was employed. The council room is panelled in Austrian oak and has an enriched plaster ceiling coved in section. Messrs. F. Webster and Sons were the builders.

THE CHYDIOKE TOMB, CHRIST CHURCH PRIORY, HANTS.

The small 15th-Century chapel contains one altar-tomb with two recumbent alabaster figures, said to be those of Sir John Chydioke of Chydioke, in Dorsetshire, and his wife, the ancestors of the Tichborne family. Sir John Chydioke fell during the Wars of the Roses. The figures retain much of their colour, but are sadly mutilated. Scrapings from the alabaster were supposed to be a cure for ague, which was prevalent in Christchurch.

The near flag is an English Jack—before the Union with Ireland—the Cross of St. Patrick being absent. The other is the flag of the Christchurch volunteers, which were formed during the wars with Napoleon. We are indebted to Mr. James Burns, I.S.O., of Bournemouth, for the loan of the water-colour sketch.

As a memorial to fallen members of the East Surrey Regiment, it is proposed to restore the Lady Chapel in the old Parish Church of Kingston-on-Thames, at an estimated cost of about £3,000.

The Harrow War Memorial Committee have authorised the appointment of Mr. Herbert Baker as architect, and will have erected a temporary cross on the triangular site recently acquired. It was decided that Mr. Baker should be directed to proceed with the preparations of initial plans for the suggested Memorial Hall, such plans to be submitted to the General Committee before being elaborated.

THE OFFICIAL ARCHITECTS' ASSOCIATION.

The Official Architects' Association, which was recently formed to serve a long-felt want to qualified architects engaged in official capacity, held its first general meeting at Caxton Hall, Westminster, S.W., on December 1, Mr. W. E. Riley, F.R.I.B.A., late superintending architect to the London County Council, and first President of the Association, being in the chair. The meeting was well attended, many members being present from the provinces.

A report from the Council of the Association was read by the honorary secretary outlining the inception and formation of the movement, and briefly stating the aims and objects of the association—viz., to foster the higher interests in the art of architecture, to provide facilities for interchange of information and advice, to read and circulate papers, to hold an annual conference, to establish an employment bureau for assistants, and to consider questions affecting the work and interests of the members. After discussion, the report was unanimously approved, and it was agreed to establish local centres in various parts of the United Kingdom and to hold the annual conference at these centres in rotation.

The President, in thanking the members for their attendance, especially those who had travelled a considerable distance in order to be present, laid emphasis on the advantages, both material and artistic, to be gained by co-operation through the Association. The duties and responsibilities of the official architect were constantly increasing, and it was very necessary for members to do all in their power to maintain their position in an honourable profession with integrity and efficiency. He thought the formation of the Association would stimulate their efforts, and, in addition to strengthening their position, would be of mutual benefit to all its members.

The meeting concluded with a hearty vote of thanks to the chairman.

We wish the new Association all success, and trust the advertisement on another page will bring many responses to the invitation of the hon. secretary, Mr. W. T. Curtis, A.R.I.B.A., Caxton Hall, Westminster, S.W.1. Telephone, Victoria 2898.

HEALTH MINISTRY'S HOUSING REPORT.

The return issued weekly by the Ministry of Health states:—

New schemes submitted to the Ministry during the week ended November 29 numbered 309, bringing the total number of schemes submitted by local authorities and public utility societies to 7,150, comprising about 55,000 acres. The schemes approved now number 2,664, comprising about 26,000 acres. Most of the new schemes are for rural districts, the Rural District Council of Havertfordwest promoting no fewer than 86 small site schemes.

Fifty-eight lay-out schemes were submitted and 69 approved during the week, bringing the total number of lay-outs submitted to 1,697 and the number approved to 974.

House plans representing 2,553 houses were submitted, and plans for 2,631 houses were approved during the week. The total number of houses represented in the plans submitted is 67,939, and in the plans approved 53,268. Tenders for 14,561 houses have been submitted, and approval given for 11,668 houses.

By the end of November 75 local authorities had made application for huts and other structures to serve for housing accommodation. Excluding cases in which the number of huts required is not stated, the total number of huts applied for approaches 2,100. The number of separate tenements into which the huts and other buildings can be converted varies largely. Some of the huts suffice for one family only, others for two or three families, and in one case it is estimated that 68 tenements can be provided out of a single hostel.

INDUSTRIAL DEMOCRACY.

In an address given before the American National Safety Council, Mr. F. L. Fluerschbach, the factory manager of the firm of Wm. Demuth and Co., of Richmond Hill, New York, gave some interesting details of the methods adopted to awaken interest in the work of the concern by the establishment of a House of Representatives, Senate, and Cabinet, elected by the workers themselves. At first the idea proved not very fruitful. The employees were a mixture of many races. A few of the elected representatives did not attend meetings—some because they did not grasp the idea, others because they were afraid they might be called on to speak, and thus expose their curious English. But other members did catch the theory of representative government from the start. Some, of course, at first believed that the whole idea was a fake, but they were willing to be convinced; and once they had the conviction of their sincerity, they went to any length to make the experiment a success. They knew and were in touch with the mass, and they learned and appreciated the mass psychology thoroughly in a very short time.

It is true that their initial interest was purely financial. These people had no practical conceptions of democracy, and democracy in business was something entirely unknown and foreign to them—almost as much as it was to ourselves. Representative government meant nothing to them at the start. They had heard vaguely of various assemblies, but they never had discovered that the form of government made much difference to the individual. They simply came to work to make a living and to get as much money out of their job as could possibly be extracted. Mighty few of them, like most labouring men, realised their responsibility in returning as much as possible for the money which they took out of the business. Each man worked for himself, showing very little concern about his neighbour in his own or the next department.

Co-operation to them seemed entirely superfluous and had to be taught in a practical manner, as preaching with the labour class usually does not go very far. They have heard too much of that in the past and received too many promises which were subsequently not kept, and a lack of response and confidence in preaching or ethical lessons is not their fault so much as the fault of those who are responsible for their disappointment.

The practical way we found to be our dividend system, and this is how it taught co-operation:—

A PRACTICAL DEMONSTRATION.

A number of men desired to celebrate an Italian holiday, and stayed away from work. At the next meeting of the House of Representatives it was announced that the dividend for the past two-week period would be only 12 per cent., but that it would have been higher had not the men taken the holiday. That is, a man who earned \$20 per week, or \$40 for the two-week period, received a dividend of \$4.80 instead of \$6, thereby losing \$1.20 because some other fellows did not work. It is one thing to stay away from work knowing that possibly the company and only yourself will lose money by your act, but it is quite a different proposition to realise that you are guilty of a loss of money to your fellow-workers. Dividends are due to mass action, and co-operation is a mass force. The mass can bring in and create co-operation as quickly as it can cause disorder.

Our plan for paying dividends on top of wages as an incentive for better work and a pride in the man's or woman's job, and in the product which he or she manufactures, is as follows:—

At the expiration of a two-week period the efficiency of the entire shop is determined by the relative value of its output to its cost of production. Standards of production and cost have been established in each department, and the savings occasioned by increased production and quality of work, as well as decreased cost and overhead, are shared on the 50-50 basis with our employees.

Our first dividend amounted to 6½ per cent. of the salary of each employee, and has gone as high as 17½ per cent. These dividends are

paid bi-weekly in a separate envelope marked "Employees Dividends," and represent their share of profits derived by interest and better work—a bonus upon service.

To stimulate their efforts for higher dividends by the element of competition, we have arranged to award a prize—a large American flag—to that department which shows the greatest saving for the two-week period—in other words, the leader in the struggle for higher dividends; and they certainly fight hard for the privilege of displaying the Stars and Stripes in their departments for two weeks. The department which succeeds in securing the banner three times during a certain period is honoured in some special manner. The last reward was a dinner given to all workers in the prize-winning department.

"YOU ARE STEALING MY DIVIDENDS."

I recall going through the plant one day during the first month we had our dividend system and noticed on entering the sand-paper shop that one of the boys tried to attract the attention of his fellow-worker who, however, would not be disturbed. Jack insistently called to Jim until the latter finally turned around quite indignantly and said: "Now, here, Jack, cut it out; you are stealing my dividends." This and many similar instances showed very plainly that the dividend envelope was quite an incentive to them, and that in return meant a good deal to us as far as quality and workmanship were concerned.

After the dividend was established for about three or four months, the House of Representatives came to a conclusion that some of the folks did not do as much to earn these dividends as others. For instance, some would stay out on Mondays and take it easy, have a good time while those in the shop were working hard and earning dividends for them. They subsequently suggested in their House of Representatives that a committee be appointed to work out rules for penalty of tardy, careless, and disinterested fellow-workers. The committee brought in the following recommendations, which were unanimously accepted and approved by both Senate and Cabinet, and have been in force ever since:—

If an employee comes late or stays away without a proper excuse for one day during the two-week period he loses one-fourth of his dividends. If this happens twice he loses one-half, three times three-fourths, and if it occurs four times during the same period he loses all his dividends.

This plan, remember, was a suggestion from the men themselves and not a penalty imposed by the employers.

STANDARDISING HOLIDAYS.

In connection with this, the question came up as to what should be considered legal holidays. Having a number of different nationalities, it was quite natural that at one time a number of Polish people would stay away to celebrate one of their own holidays, and next week Italians would do the same thing. One of the representatives said at the House meeting, "This will never do. Every time a group of people stay away down go our dividends because it interferes with production, and the idle machinery and waste of power increase our overhead." He then proposed a list of strictly American holidays, which again found whole-hearted approval of the other two governing bodies, so that anyone celebrating any other holiday except those officially adopted would lose dividends.

The folks realised in investigating ways and means to increase dividends that a great handicap was due to the fact that some of them did not understand English well enough, and the Ways and Means Committee suggested in the House that we introduce a rule that we do not employ any people who cannot speak English. Now, we had a good many men in the place who had been there a number of years, who couldn't speak English, so the only thing for us to do was to follow their suggestion and introduce English classes. The Board of Education established two classes for non-English speaking people, and out of every department quite a few of them flocked to the school.

There again we applied our 50-50 principle.

as time spent in these classes is one-half in company time. In other words, school lasts one hour, from 4.30 to 5.30 p.m. We pay those who attend up to five o'clock, our regular closing time. In compliance with a recent request from the scholars the time has been extended to 1½ hours under the same arrangements, paying them for 4.15 to 5 p.m., or one-half of the time spent at school; the other half is their own contribution.

One of the important accomplishments which was a direct result of industrial democracy was the change of working hours. We had been working 53 hours per week for a number of years, when in November, 1917, the question arose in the House of Representatives whether same could not be reduced to 50 hours. After a long and careful discussion at a joint session of House and Senate, followed by a mass meeting—usually held about once in six to eight weeks—at which the idea was fully explained to all employees, it was mutually agreed that we should try the 50-hour service for three months. Everyone pledged himself to a full honest 50 hours' service, promising to avoid tardiness and idle machinery; furthermore, that if the earning or production should be decreased, or if for any reason the change did not work satisfactorily, it was understood that everybody would be perfectly willing to return to the 53-hour schedule. Before the trial period was over the production was increased by about 8 per cent., which meant better income and saving for all concerned.

FURTHER REDUCTION OF HOURS.

Encouraged by this success and the evident happiness of everybody around us, the Cabinet, in October, 1918, suggested to both Senate and House to consider the advisability of changing to a 48-hour per week schedule. Some of our employees were somewhat reluctant as they doubted their ability to produce as much work in 48 hours as they had formerly done in 53 hours. To show our appreciation of their willingness to put forth their best efforts in making the change, we adjusted all rates, guaranteeing them from the start the same income as they had before. Consequently results showed no falling off in our production, and when, a few weeks ago, the 44-hour question came up for consideration there was little hesitancy on anybody's part to try out this new change. At this time I am not in a position to give definite figures as to the production. However, several of our departments have made very satisfactory individual records so far.

We have had a Mutual Benefit Association since 1902, which provides for free doctor service, a weekly sick benefit of \$6, and death benefit of \$100 at an expense to the members of 10 cents per week. As this field was quite well covered, the Senate turned its attention to life insurance, and within a short time after a thorough investigation by Committees of Cabinet, Senate, and House of Representatives, a plan for insurance was evolved and installed in December, 1917, whereby in case of death the beneficiary receives an amount equal to one year's wages, the maximum amount being \$3,000. The premiums for same are paid by the employees themselves by one of the percentages of the bi-weekly dividends. In other words, if the dividends are found to be 15 per cent. for a certain two-week period, 14 per cent. is paid in cash and 1 per cent. is retained for the insurance. As we have had sixteen deaths since inaugurating insurance, the few who did not believe in the wisdom of insurance at the beginning have been thoroughly and permanently convinced. By the people's vote every employee is thus covered by insurance.

LABOUR TURNOVER.

One of the important and most constructive functions of both Senate and House is the consideration of the labour turnover. For each meeting—the Senate convenes every Wednesday at 1.30 p.m., the House at 3.30 p.m.—a complete record of employees having left our service is given on a large blackboard, stating name, department, how long in our employ, and reason for leaving or discharge. The foreman of the respective department usually volunteers or is asked for detailed information in any doubtful case.

The men and girls, realising that losing experienced help—and replacing same by green

hands at an average expense of about \$100 in some places—means a reduction of dividends for all, do their level best to keep them at work. Many a disheartened boy or girl was induced by his or her fellow-workers to stick to the job and try it out a little longer by offering to show them a more advantageous way of handling their work.

During the war, when we all experienced a shortage of labour, a few appeals to the mass to bring along friends to fill vacant positions in order to avoid increase in overhead and decrease in production—and consequent decrease of dividends—were quite sufficient to fill our depleted ranks, so that when most of our neighbours were constantly short of help we actually had a waiting list of applicants.

Since the installation of this system of shop government, each employee realises that instead of his being a mere cog in a wheel, to be used or dispensed with at some person's convenience, he has become a useful and intelligent unit of the organisation, with a voice in its management, something to say about how long and under what conditions his best work can be done, and how much he shall receive for it. This has the effect of increasing his self-respect and respect for his job, together with a sense of his personal obligation to his fellow-workers. It is giving him an insight into the problems that harass his employers, and it creates respect for them, and makes him willingly share their burdens. Above all, it awakens the sense of civic responsibility, inspires him to study our language and our customs, and in that way strikes a blow at what is, perhaps, the most insidious evil at the root of our Republican form of government—the ignorance and indifference of the individual of and to the things that are of vital importance.

The reason for the successful operation of the industrial scheme, I believe, is due to the fact that the people are being educated to be self-reliant. With welfare work, etc., they think and feel that you are trying to do something for them, and it is looked upon by them as being too paternal.

COMPETITIONS.

BRIDGWATER HOUSING COMPETITION.—The Competitions Committee of the Royal Institute of British Architects requests Members and Licentiates to refrain from taking part in the above competition, the conditions not being in conformity with the Institute regulations for architectural competitions. The committee is in communication with the promoters of the competition with a view to the amendment of the conditions.

M. August Renoir, the well-known French painter of the modern school, died on the 3rd inst. at Cannes, on the Riviera. He was born in 1841.

Mr. Arthur Vernon, J.P., a past-President of the Surveyors' Institution, and Mrs. Vernon celebrated their golden wedding on Tuesday week. Alderman Vernon has been a member of the Wycombe Corporation for nearly half a century.

A memorial panel painted by Mr. Clement C. Skilbeck, and a brass tablet recording the 28 years' service of the late Miss B. Lovelock for the Early Closing Association, were unveiled in St. Nicholas Cole Abbey Church, Queen Victoria Street, on December 3.

The next annual congress of the Royal Institute of Public Health, which suspended these meetings during the war, is to be held at Brussels from May 20 to 24, inclusive, by invitation of the Burgomaster, M. Adolphe Max. Delegates will be invited from all the universities, municipalities, and other public bodies in due course. Meanwhile, all wishing to take part should communicate with the Hon. Secretaries, the Royal Institute of Public Health, 3, Russell Square, London, W.C.1.

Mr. F. C. Emmer, in his lecture on the 3rd inst., at St. Paul's Chapter House, on "Pre-Reformation Fonts," said the sanctity rightly attached to the consecrated instrument of the Holy Sacrament had caused fonts to be carefully preserved, and as a rule they had been affected but little by the alteration or rebuilding of churches. There remained in existence about twenty-nine leaden fonts; many had been melted down for the sake of the lead obtainable, in some cases to make bullets.

A COMPARISON OF THE HEAT-INSULATING PROPERTIES OF MATERIALS USED IN FIRE-RESISTIVE CONSTRUCTION.

By WALTER A. HULL.

A comparison of the relative efficiencies of the different classes of materials commonly used in fire-resistive construction to protect load-bearing members from the heat of an accidental fire has recently been made in an investigation by the American Bureau of Standards. All materials were made up into specimens in the form of solid cylinders, eight inches in diameter and sixteen inches long. These were tested separately in a specially designed gas-fired furnace, the furnace temperature being raised gradually to 927 deg. C. in ninety minutes and held at approximately that point for two hours.

Temperatures were measured by means of thermocouples at four points in the interior of each specimen. The temperatures were recorded throughout each test, giving information as to the rate of heat penetration in each sort of material. The condition of specimens after the test gave information as to the extent of deterioration which took place in each kind of material due to the heat.

The investigation included three clays that are used for the manufacture of terra cotta tile, concretes from two mixtures, 1:2:4 and 1:3:6, with a number of different coarse aggregates, gypsums of several different mixtures from raw materials from different parts of the country, and lime mortar.

The most rapid heat penetrations were found in the denser specimens of the burned clays. A porous burning clay, light burned, heated through as slowly as most of the concretes and much less rapidly than the denser, harder burned clays. No clay specimens of the porosity of terra cotta lumber produced by the addition of sawdust were included.

Among the concretes, those with a coarse aggregate of gravel and those from bituminous cinders containing a large proportion of combustible material heated through most rapidly. Concretes from clean bituminous cinders, trap rock and blast furnace slag heated through more slowly, while the limestone concrete specimens heated through somewhat more slowly than any of the others. The less rapid temperature progress in the limestone concrete specimens may be attributed to the heat absorbed by the decarbonation of the limestone in a thin layer of concrete next to the exposed surface and to the fact that the resulting calcium oxide was presumably a better heat insulator than the original stone.

Gypsum specimens showed long temperature lags at about 105 deg. C., due to dehydration of the material. Temperature progress through the gypsum specimens was much slower than through the clays and concretes. The densest, heaviest gypsum mixture heated through slightly more slowly than the lighter ones, due presumably to the great heat-absorbing capacity of the heavier specimens.

Lime mortar made a favourable showing, thermally, as compared with the concretes.

All the concretes were weak after test. Limestone concretes retained somewhat more strength than those from other coarse aggregates, though the cinder concretes were tougher than the others. The gravel concretes were the weakest of all after test. This is attributed largely to the fact that the gravel was made up of quartz and quartzose materials, as it is known that the expansion behaviour of quartz, including the sudden volume increase as the inversion point at 575 deg. C. is approached, is especially conducive to destructive strains. The gypsum and the lime mortar retained very little strength after the test.

The results are consistent with earlier information as to the relative thermal qualities of the three classes of materials, burned clays, concretes, and gypsums, but are favourable to members of each class; namely, porous clays, limestone concretes, and the denser gypsums. The showing of gravel concrete both thermally and in respect to loss of strength was unfavourable.

Correspondence.

UNITY IN THE R.I.B.A.

To the Editor of THE BUILDING NEWS.

Sir,—Much has been written during the past year on the necessity of architects pulling together and showing a united front. That such an exhortation should be necessary appears paradoxical in the case of a society, the members of which have associated together "for the general advancement of civil architecture."

The necessity for these exhortations is not to be found, however, in recent events. The trouble dates back from 1887. Clause 28 of the Charter granted in that year provides that "no associate shall be entitled to vote in respect of the making and adopting, altering, revising, suspending or rescinding of any By-law."

Within recent years the controversy raging round the creation of the Licentiate class, the Registration Bill, and the absorption of the Society of Architects, the admission of Licentiates to the Fellowship class, the proposed New Charter, and last but not least the suspension of portions of By-laws 10 and 11, together with the admission of certain candidates to the Associate class without the necessary qualifying examination, all indicate the lack of unity which is essential if the corporate body is to be a real influence in the advancement of civil architecture.

To say that all these measures have received the consent of the general body before being put into execution is constitutionally correct, but to affirm that the majority of corporate members agreed to these proposals has not yet been proved and never can be proved until clause 28 of the Charter of 1887 is rescinded and a postal vote for all corporate members instituted.

The president in his explanatory letter to the meeting held on December 1, 1919, stated that if members disapproved of the policy of the Council in suspending the necessary qualifying examination for students who have been on active service "it was open to them to challenge the council at a general meeting and to exercise their power of adverse vote." This ignores the fact that members who would have raised objection were miles away from Conduit Street, fighting for their country when this proposal was first mooted. On their return they took the opportunity of protesting in the "misguided" and "deplorable" manner of demanding a ballot. The result is only too well known, and now we have the spectacle of a Council circumventing the expressed opinion of the majority by means of a special meeting.

Roughly two thirds of the corporate members reside outside London, and it is quite obvious that the majority of these cannot attend special or general meetings, on the score of expense and loss of time. The thanks of all pre-war associates are therefore due to the eight Fellows—some of whom travelled from the north—who so ably championed the cause of the "misguided" ones.

The arguments which the President uses for those "whose war services entitle them to every consideration" applies equally to Associates who enlisted. These men spent years in hard study and were put to considerable expense in so doing. They do not begrudge concessions being granted, but they expect them to be reasonable and equitable and to correspond with concessions granted to students in institutions and societies of similar standing to the R.I.B.A.

In the concluding paragraph of his letter the President states that "a Council must carry out pledges given by its predecessors" and it will be interesting to know how the Council reconcile their action with the pledge given in the annual report for the Official Year 1914-1915, printed on page 351 of the journal dated May 22, 1915, which states: "In consequence of the outbreak of war it was decided that the consideration of all matters of policy of a controversial nature should be deferred."

If matters continue in this way the op-

position society, whose designatory letters I append, will shortly rival the Institute in point of membership.

F. E. D. U. P.

THE HOUSE FAMINE.

HOW TO SOLVE IT QUICKLY AND WELL.

Sir,—Let the Government invite tenders, not for houses, but for the subsidy per house, in consideration of which any private person, firm or company will provide them, the houses being the property of the building owner.

The subsidy to be paid as each house is certified ready for occupation. No rent restrictions.

(a) For house (not more than four in a block with central passage), with living room 180 ft. net, scullery 100 ft. net, larder, coal place, bathroom, separate w.c. (or earth closet in the country), and two bedrooms aggregating 300 ft. net.

(b) For ditto with three bedrooms aggregating 400 ft. net.

(c) For ditto with three bedrooms (400 ft. net), with parlour 120 ft. net.

(d) For ditto with two bedrooms (300 ft. net) and ditto.

In town or urban district, twelve houses to the acre.

In the country, eight houses to the acre.

The Government to pay the cost of providing in the adjoining streets the water, gas and electric mains and sewers in towns and urban districts where such are usual.

In the country, as, for the most part, these do not exist, the Government would not supply them, and the building owner would thus demand a rather higher subsidy.

Rooms to average not less than 7 ft. 6 in. high nor less than 6 ft. at eaves where the pitch is one-fourth or less than 5 ft. at eaves where pitch is half or more.

Eleven-inch brick cavity outside walls, 4½ in. inside walls and party walls, 9 in. solid outside walls if cemented outside.

In country districts thick solid stone or cement or pisé or cob will be accepted. Concrete walls will be accepted. Any kind of roofing that is drop dry and not weatherwise will be accepted.

Narrow roads with turning places. Few thoroughfares. Minimum of 70 ft. at right angles between fronts and rears of houses.

The present rent restrictions to be gradually withdrawn as follows:—

10 per cent. increase next May;

20 per cent. increase every six months thereafter.

The fact that the houses will belong to those who build them is a sufficient guarantee to the community at large that—

(1) They will be reasonably well planned.

(2) They will be reasonably well built.

(3) They will be built where they are most in demand.

(4) They will be built at a reasonable cost.

Yours, etc., STOTT AND SONS,

Architects and Consulting Engineers.

5, Cross Street, Manchester.

THE HOUSING PROBLEM.

Sir,—I think the suggestion of Mr. H. M. Ellis to which you refer for a representative Committee of interested bodies to deal more especially with the question of cost and the supply of materials is excellent, but, personally, I should favour the utilisation of existing machinery rather than the creation of new bodies.

I have always thought that if Dr. Addison and his advisors had in the first instance called in and worked in consultation with the professional and trade organisations representing the building industry, the present critical situation would not have arisen.

I suggest that all such problems as those mentioned by Mr. Ellis might well be referred by the Ministry of Health to the Building Industries Consultative Board, which is composed of architects, surveyors, master builders and operatives, and expressed the views not only of its own members, but also the collective opinions of the bodies they represent and which cover practically the whole field of the building industry.

I cannot agree with Mr. Ellis that the Government should control prices. I think, on the contrary, that one of the essential

conditions precedent to the solution of the Housing problem is the removal of Government control and restrictions on any department of the building industry. The Government would be far better employed, in my opinion, in restoring more normal conditions by removing the causes which have led to the artificial inflation of prices than in introducing fresh legislation tending to still further harass the building industry.

Yours faithfully,

C. McARTHUR BUTLER.

The Society of Architects, Secretary.

23, Bedford Square.

London, W.C.1.

Dec. 6, 1919.

THE NATIONAL HOUSING CONFERENCE.

Sir,—I have pleasure in informing you that the National Housing Conference will take place in the Pillar Hall of the Cannon Street Hotel, E.C., on Monday, December 15, at 2 o'clock prompt.

Chairman: The Rt. Hon. Captain E. G. Pretymann, M.P.

Speakers: Major J. H. Pretymann-Newman, M.P., Major P. Lloyd-Creamé, M.P., Edwin Evans, J.P., L.C.C., A. Webb (Executive Building Societies Association) and A. G. Westacott, F.R.I.B.A.

I should feel extremely obliged if you could give prominence to this in your next issue, and state that tickets of admission can be obtained at the offices of the National Housing Campaign Committee, 155, Fenchurch Street, E.C.3. —Yours faithfully,

A. G. WESTACOTT.

"Colonial House."

155, Fenchurch Street,

London, E.C.

PLEASE STATE TERMS.

Sir,—The Society of Architects has recently and for the second time circularised Local Authorities in regard to the advantages to be derived from placing Housing Schemes in the hands of practising architects. At the same time opportunity was taken to suggest that where local authorities invite architects to apply for housing appointments it should be made clear that the appointment will be made on the merits of the professional qualifications of the candidates only, and that the fees payable will be those agreed by the Ministry of Health for State-aided housing schemes. This proposal was submitted in view of the advertisements constantly appearing in the professional journals inviting architects to apply for housing appointments and to state their terms for carrying out the work. It is hoped that the Society's representations will have the desired effect. At any rate the local authorities can no longer plead ignorance as to the proper procedure, and if individual architects will, in their own interests, when applying for such appointments personally support the action which the Society has taken on their behalf a very different state of things will be brought about.—Yours faithfully,

C. McARTHUR BUTLER,

Secretary of the Society.

23, Bedford Square, London, W.C.1.

December 8, 1919.

R.I.B.A. PROPOSED SUSPENSION OF BY-LAWS.

Sir,—At the special general meeting on December 1 some members stated that they had received their notice for the meeting less than seven clear days in advance as required by the by-laws. On enquiry being made it appeared that a few copies of the Journal had not been posted by the printers at the proper time, owing to the impossibility of getting their men to work at the week-end. The by-law has therefore been technically violated, and to put the matter right the Council have decided to summon a further general meeting, of which due notice will be given. The confirming meeting summoned for December 15 will not take place.—Faithfully yours,

IAN MACALISTER,

Secretary.

9, Conduit Street, Hanover Square,
London, W.1.

December 8, 1919.

AN INTERESTING REINFORCED CONCRETE BUILDING.

In his presidential address at the Concrete Institute on November 27, Mr. H. D. Searles-Wood, F.R.I.B.A., said one of the most interesting reinforced concrete buildings now being carried out is the large dome over the Port Rates Department of the new head building of the Port of London Authority. The outside diameter of the supporting walls is 112 ft. and the outside diameter of the dome proper is 110 ft. 6 in. The rise from the centroid of the main supporting tension ring to the centre of the top compression ring is about 31 ft. The top ring or dome is a double dome supporting a pendant light, and is carried by sixteen ribs, which are open between the ribs and glazed and roofed with glazing. A travelling ladder is to be fixed over the outer glazing for cleaning purposes. The lower two-thirds of the dome are to be constructed in reinforced concrete with thirty-two internal ribs and sixteen external ribs, the shell being stepped with five steps and asphalted on the outer face. The total weight of the dome, including the bottom supporting ring, is estimated at 1,536 tons. The cubic feet of concrete total 20,000, equal to a length of over 3½ miles of 12 in. by 12 in. The calculated horizontal radial thrust at the foot of each of the sixteen main ribs is 22.35 tons and of the sixteen intermediate ribs 14.82 tons, and the hoop tension in the supporting ring is 114 tons. The radial thrust can be roughly checked by the following simple formula:—

$$Tr = \frac{\text{weight} \times \text{diameter}}{8 \times \text{rise} \times \text{number of ribs}} = 21.1 \text{ ton}$$

and the hoop tension in the main supporting ring can be checked by the following simple formula:—

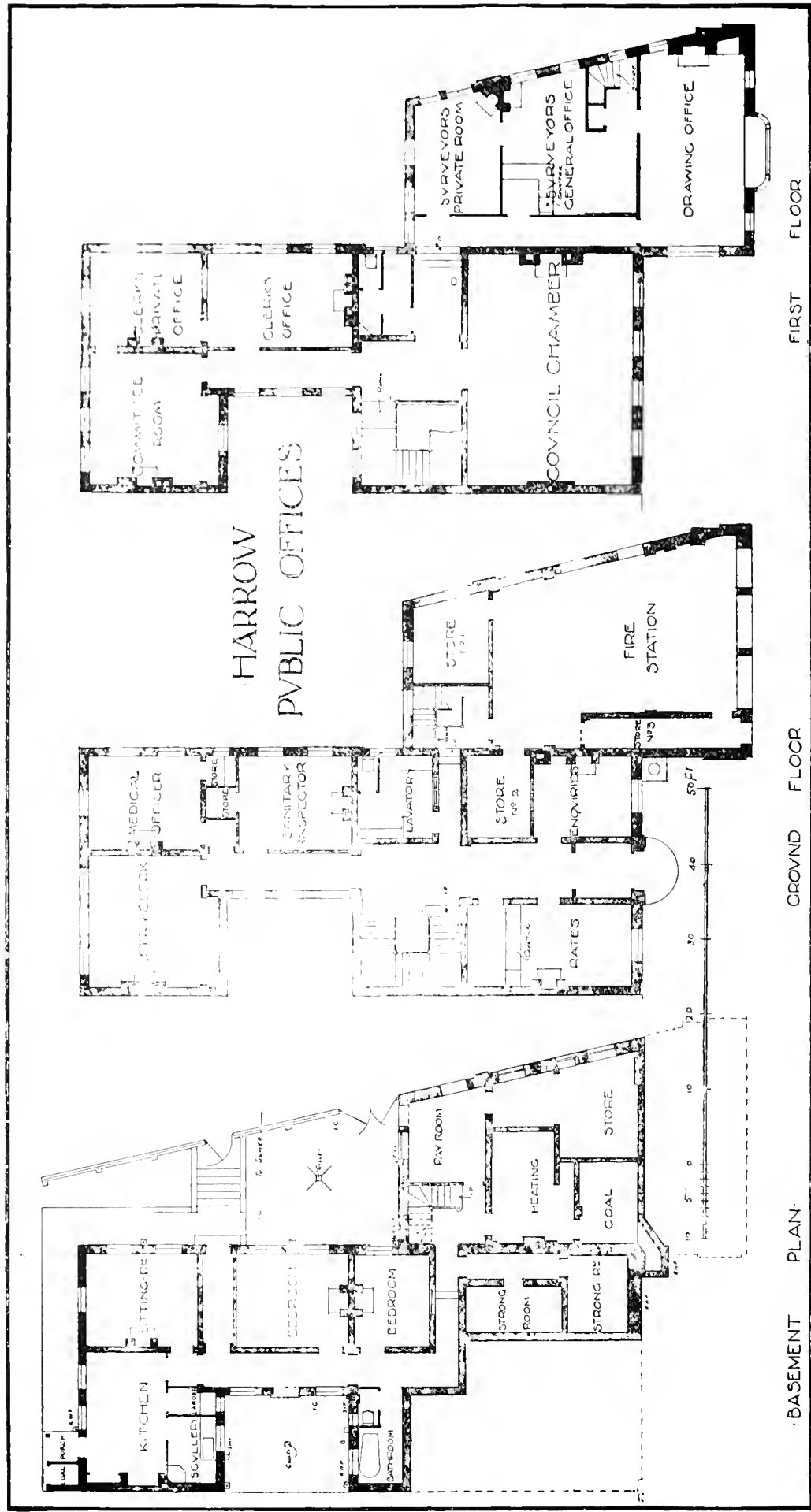
$$Th = \frac{\text{wt.} \times \text{circ.}}{150 \times \text{rise}} = 141 \text{ tons or } \frac{\text{wt.} \times \text{diam.}}{150 \times \text{rise}}$$

This dome was so perfectly proportioned by the architect, Mr. Edwin Cooper, F.R.I.B.A., that the eccentricity of the lines of thrust in the main ribs was practically negligible. These ribs being assumed as 18 in. deep, the maximum eccentricity in the upper portion was 3 in., on the centre portion 1 in., and the lower portion 2 in. Again, the horizontal thrust at the intermediate rings or purlins, due to the main ribs, are almost equal, being 22.35 tons at main supporting ring, 22.98 tons at the lower position, and 22.02 tons at the upper purlin; therefore the stresses in these two purlins due to the main ribs are practically nil. Broadly speaking, this is an admirable example of a dome, which from an architectural standpoint is perfectly proportioned, and from an engineering point of view is economically designed, because all stresses are reduced to a minimum and secondary stresses are eliminated; in fact, the moments due to eccentricity of thrusts are so small that sufficient steel has been provided to take up all such moments, and the resistance of the concrete has been neglected. No wind or snow load was allowed in calculating the weights, because, compared to the weight of the construction, such load is infinitesimal; in other words, a super-load of about 4,500 tons would be required to cause the dome to collapse.

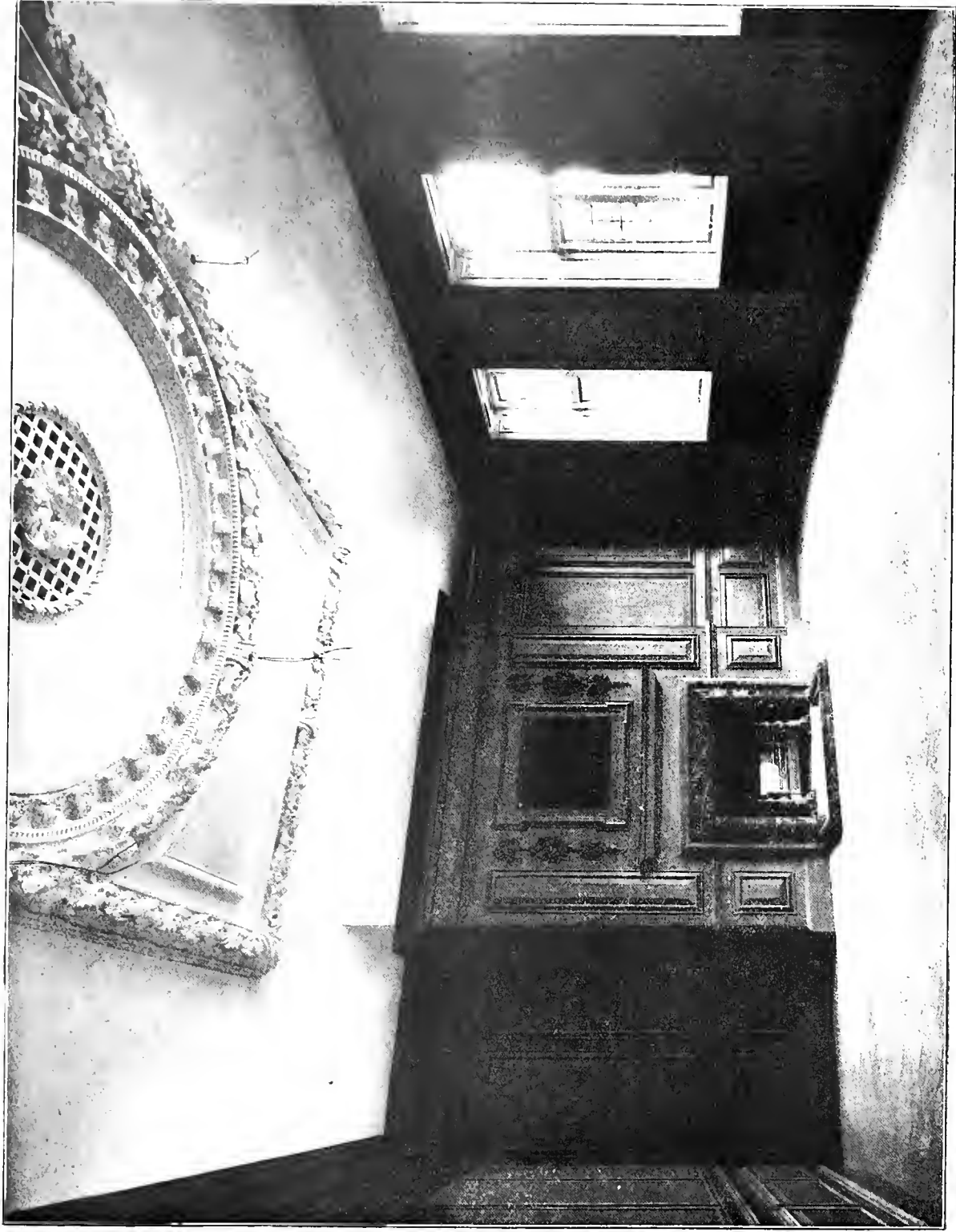
At Long Sutton last week a meeting was held to decide upon the situation of the war memorial, Mr. S. F. Fletcher presiding. It was decided that the memorial be erected in the Market Place, and to dispense with the services of an architect. Designs were submitted by Mr. C. Warrick and accepted. It is estimated that the cost will be upwards of £1,500.

The tender of Mr. J. J. Blackburn, of Patricroft, Manchester, for the erection of thirty-three houses in Alderley Road and Poulton Road for the sum of £31,033 12s. 9d. has been provisionally accepted by the Wallasey Council, subject to the necessary sanction being obtained. The tender represented £938 each for eleven of the houses and £916 each for twenty-two. It is understood that the Ministry of Health is likely to eliminate certain costs, in order to reduce the price of the houses by about £100 each.





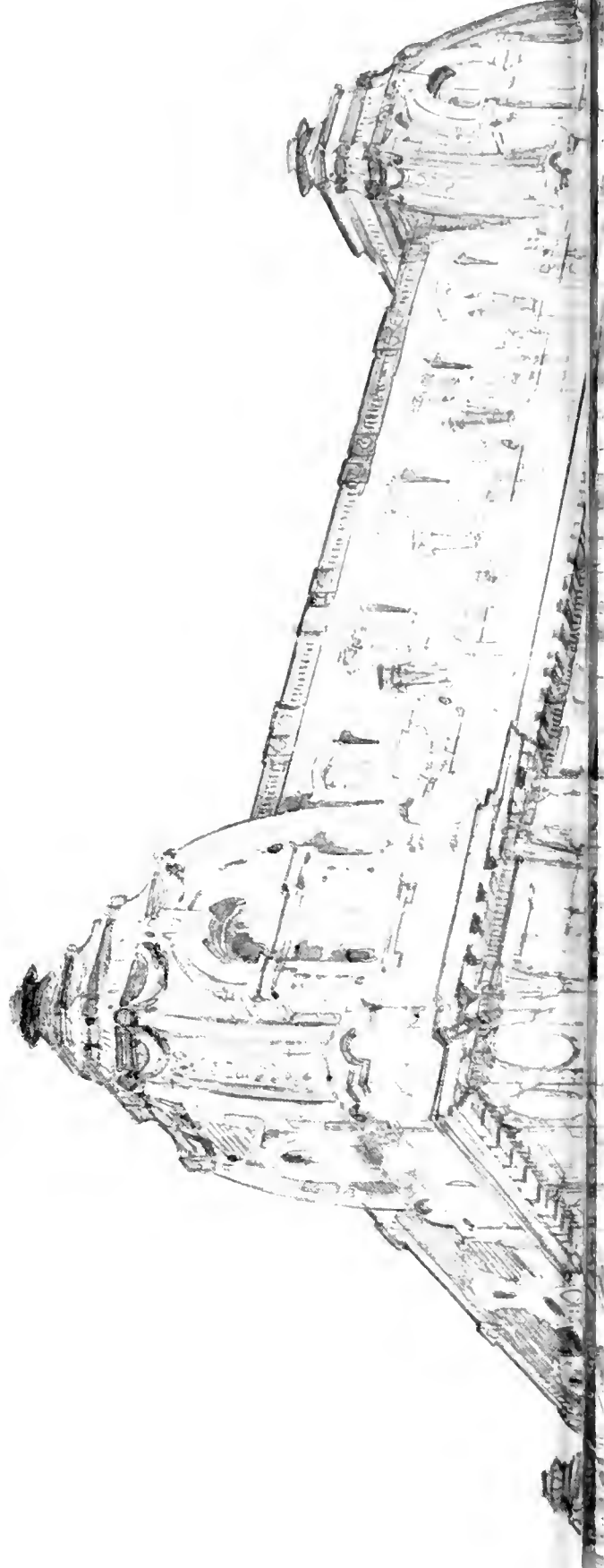
PUBLIC OFFICES AND FIRE BRIGADE STATION, HARROW, MIDDLESEX.
 MR. HARRY PRINCE, A.R.I.B.A., Architect.

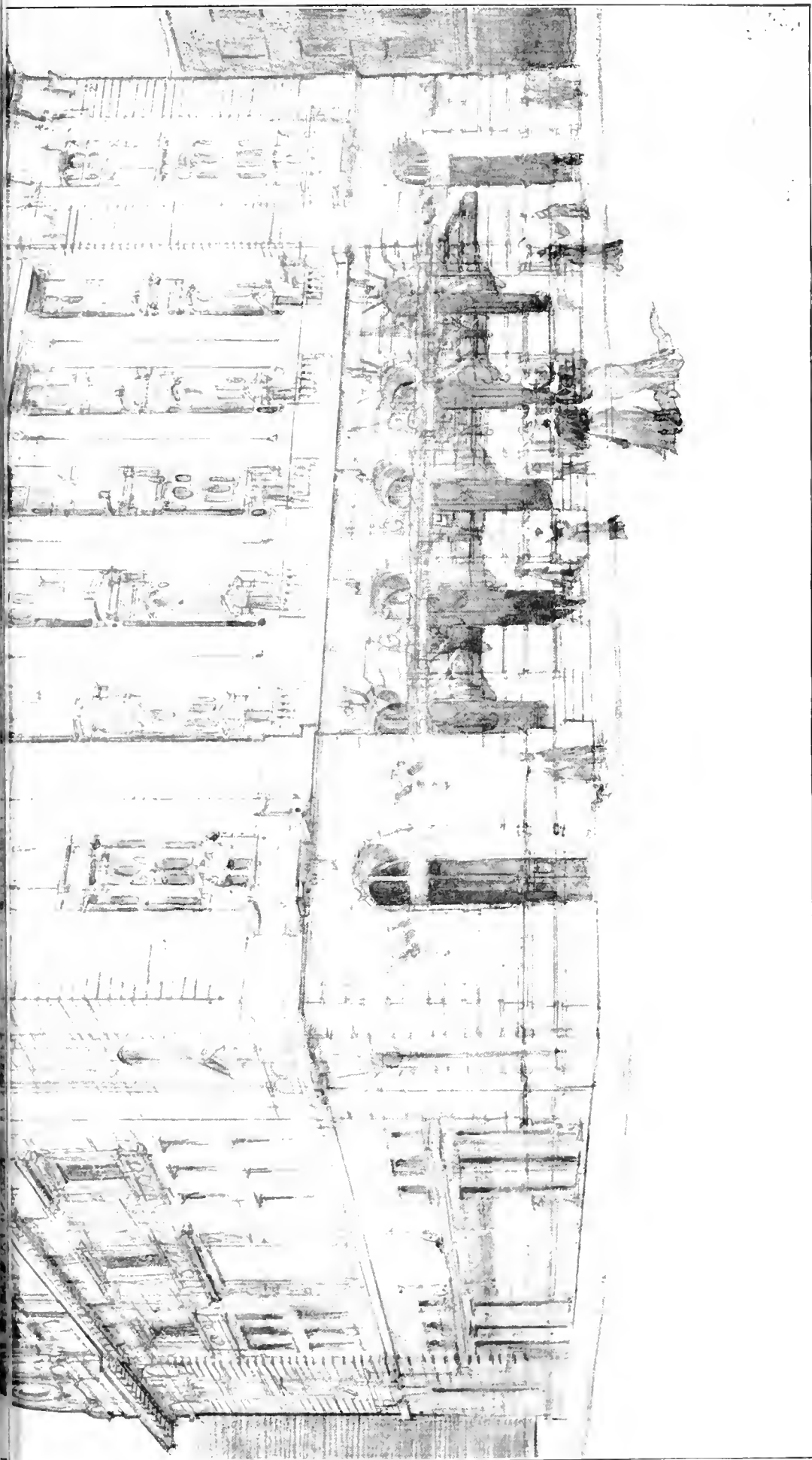


COUNCIL CHAMBER, PUBLIC OFFICES, HARROW, MIDDLESEX.
MR. HARRY PRINCE, A.R.I.B.A., Architect.

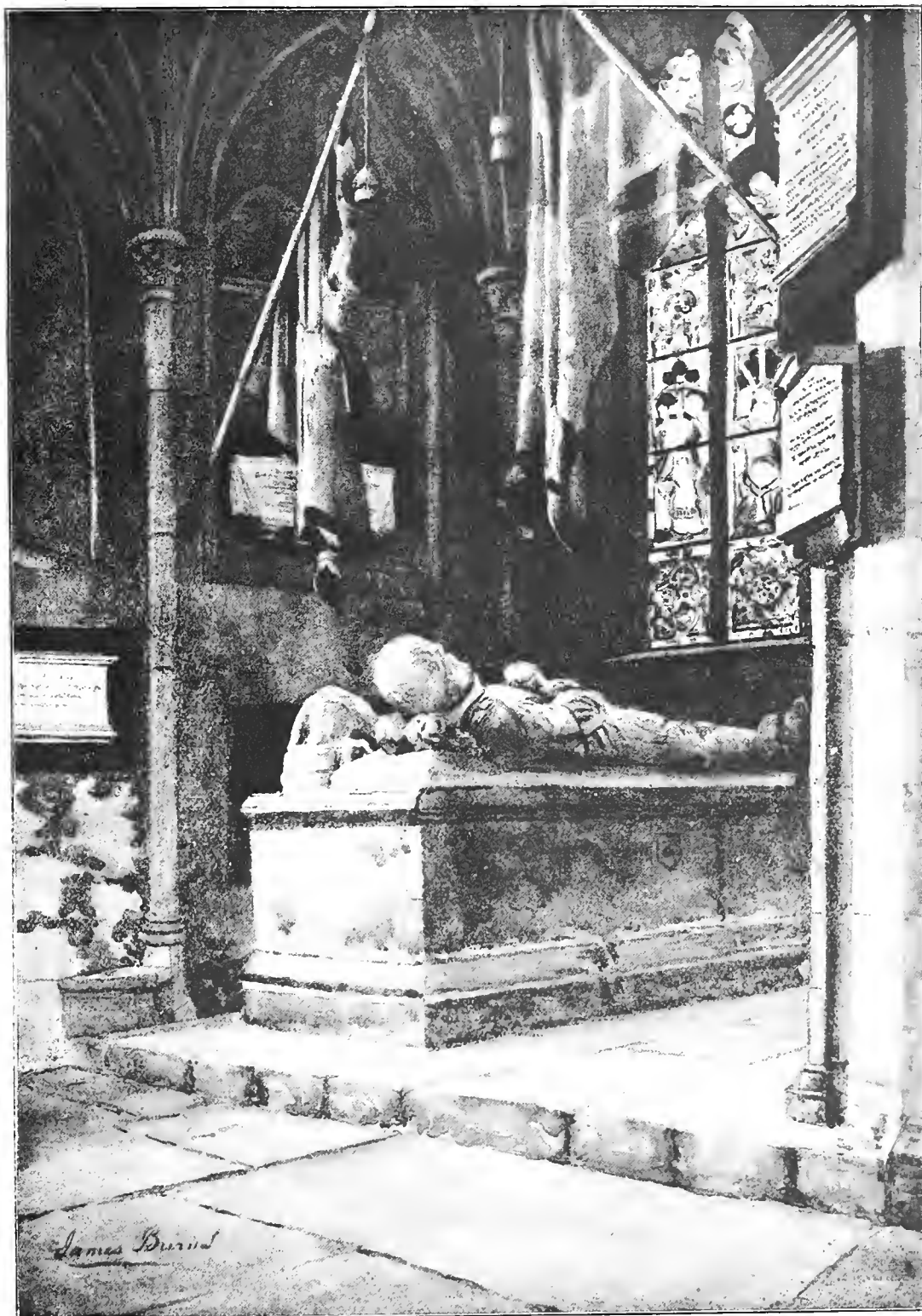


THE BUILDING NEWS, DECEMBER 12, 1919.





PROPOSED NEW THEATRE, CHARING CROSS ROAD, LONDON.
Mr. FRANK T. VERITY, F.R.I.B.A., Architect.



THE CHYDIOKE TOMB, CHRISTCHURCH PRIORY CHURCH, HANTS.
From a Water-Colour by Mr. JAMES PURNS, I.S.O., 1919.



PUBLIC OFFICES, HARROW, MIDDLESEX.
Mr. HARRY PRINCE, A.R.I.B.A., Architect.

THE PROTECTION OF OLD COTTAGES.

By ERNEST NEWTON, R.A., F.R.I.B.A.
(Hon. Consulting Architect to the Ministry of Health).

If anyone were asked what was one of the most characteristic features of England he would answer, without hesitation, its country towns and villages. Arranged, as they are, apparently, without any very definite plan, the whole effect is homely and pleasant. Every building almost has its strongly-marked individual character; this character is always unobtrusive, and the whole forms a blend which it would be impossible to match anywhere else in the world. Here and there modern building, ignorantly designed and unskilfully built, thrusts itself into notice, but serves only as a foil to its neighbours, and is mercifully absorbed in the general mass. Not only are these towns and villages satisfying to the eye and soothing to the mind, but they constitute also a record of the lives of those who built them. The history of a nation is inevitably written in its architecture, in the cottage as well as in the church and great house, and to those who have eyes to see, these buildings tell the story of the sturdy life of England for centuries. There is no doubt that the subtle charm of the English village, with its church surrounded by the graves of bygone ancestors of all ranks of life, exerts an unconscious influence on all those who live in it, an influence which deepens the affection for an England which is worth living in and dying for. How often did the thoughts of the men in the trenches turn to their own particular village, their own special dwelling, and stiffen them into a resolve to do and dare everything to guard their country and their homes from the invader?

Unfortunately, although these old buildings were, for the most part, honestly and soundly built by men who knew and loved their craft, advantage has been taken of their apparent indestructibility to leave them without any adequate repair for many years, and in the English climate no building, if neglected, will last for ever. The first part to give way is the roof covering, and water, the greatest foe to buildings next to fire, begins its deadly work. Ceilings fall, rafters and flooring rot, the building soon ceases to be habitable, looks disreputable, is finally condemned to destruction, and disappears, and with it disappears a page of precious history.

Now, in the majority of cases this destruction is not only unnecessary, but criminally wasteful. It is not contended that every dilapidated cottage can be repaired, but it must be a very desperate case that will not yield to skilful and experienced treatment. When a building has reached the disreputable stage described above, the health officer is almost bound to condemn it, as he is not, of course, technically qualified to say whether it can be repaired or not; his concern is mainly with the health of its inhabitants. I would appeal to all local authorities in districts where there are buildings of this description not to be in too great haste to call in the executioner, but, before condemning them to destruction, to seek the advice of those skilled in the treatment of buildings that to the untrained eye have lived their life and seem to cry aloud for removal. Of course, a certain number will be found to be past repair, and it would not be possible economically to attempt to do anything to them unless they were of very special architectural value; but so long as the walls and foundations are sound no building is past repair. With skill and experience the bulk of these houses can be made dry, sweet, clean, and healthy dwellings at a far less outlay than would be required to build new ones. Apart altogether from æsthetic considerations, it is both practical and economical to snatch old cottages from destruction and so repair them that at a small outlay they become habitable again without destroying in any way their character or history.

The Ministry will be glad to advise any local authorities who are uncertain whether cottages, which in their present state have to be condemned, cannot be economically altered so as to bring them up to the required standard.—*Housing.*

Our Office Table.

Birmingham Tame and Rea District Drainage Board have an interesting housing scheme on hand at Minworth Greaves, in connection with which a sub-committee of ten women was formed to go into the question in detail, and the result of their deliberations was considered by the engineer. In almost every instance the proposals made were embodied in the new plans, which were afterwards submitted to the Board and to the Local Government Board for approval. It was not until April last that written approval to the plans was received from the Local Government Board, and a promise of financial assistance given to the scheme. Now that the first house built is occupied others will follow in rapid succession. The economic rent will be 19s. 11d. per week in the parish of Minworth, and 22s. 1d. in Sutton Coldfield (Minworth Greaves), and the committee have fixed the rent to be paid at 14s. per week. The wash-up sink is placed in the living-room, where the cooking is done, in recess, which may be curtained off. Shelves for cooking utensils, etc., are arranged on the ends of the recesses. Instead of the usual scullery, a wash-house is provided, containing the bath, and self-contained washing boiler. This room opens out of the back lobby; it is not, therefore, a passage way between the living-room and the back door. Both front and back doors are protected from the weather by means of porches, and the coal-place is accessible under cover. The parlour floors are boarded, and the remaining ground floors are paved with red quarries. The external walls are built with a 2 in. cavity, and all walling has been executed in local common red bricks. The women were very keen on sash windows; therefore this type of window has been adopted throughout, and in all cases the sashes are hung.

An effort is being made to form an association of the various national academies in Rome for the interchange of views. There will be an annual exhibition in the Via Nazionale, the premises having been offered by the municipality, and it is hoped that in addition there will be two or three yearly meetings. The Italian community, the British School at Rome, the Spanish, and the Americans have all signified their readiness to join the association. The French are at present undecided, but will probably become members. Other nations are planning to establish academies.

During the war the Cluny Museum at Paris was closed owing to the mobilisation of almost all the personnel, and before the battle of the Marne most of the exhibits were sent away from Paris. The museum has now been completely rearranged and reclassified. The ground floor is reserved for stone and metal exhibits. Exhibits of great value are on the first floor, while tissues, embroideries, and lace occupy the second floor. The second floor was formerly used as the private rooms of the director of the museum, and the throwing open of them to the public will make it possible very much more adequately to exhibit the treasures. The director of the museum is said to have carried through the reconstruction for the sum of merely eighty francs.

The second part of "A History of Everyday Things in England," by Marjorie and C. H. B. Quennell (London, B. T. Batsford, Ltd., 8s. 6d.), is on the lines of the first part, which embraced the period from 1066 to 1499; this brings the history down to 1799. Liberal space has been accorded to architecture, costumes, and the arts generally, and one most devoutly wishes that the author's aims to interest boys and girls therein may bear fruit; and that a generation may arise capable of understanding that the buildings of our forefathers with their furniture and the dresses of their inhabitants were not playthings or the sport of fashion as now, but history in stone, wood and fabrics. If that day ever dawns, one's condolences are offered in advance to the authors who attempt to deal with its history, based on the fashions, houses, furniture, costumes, and games which evidently delight the readers of the daily papers who illustrate the grotesque fashions in such swift succession

that, fortunately, none but profiteers and flappers can attempt to keep up with them.

Some examples of English furniture and woodwork have recently been acquired by the Victoria and Albert Museum by gift as well as by purchase. Among them is a chair of the time of Charles II., selected by Sir George Donaldson from his museum at Hove and presented to the nation. The chair is reputed to have been the property of Neil Gwynne. It is richly carved with the ornaments of the period. Another gift, made by Mr. Thomas Sutton, consists of a collection of English tea caddies brought together during the past thirty years by the late Mrs. Sutton. Mostly of small size and very delicate workmanship in ivory, tortoiseshell, mother-of-pearl, and elaborately inlaid or painted woods. The furniture acquired by purchase includes a mahogany chest of drawers in the manner of Chippendale, of finely figured wood, enriched with carving, and with chased brass handles; a Charles II. walnut cabinet on stand, decorated with oyster pattern inlay and marquetry of flowers and birds; and a miniature bureau or writing cabinet of the time of Queen Anne finely lacquered with floral designs in various colours on a yellow ground. Amongst the furniture of earlier date is an Elizabethan armchair, the tall back carved with the initials I. E. S. and the date 1574. The chair, which was acquired in Berkshire, is said to have belonged to John Winchcombe, alias Smalwood, grandson of John Winchcombe, popularly known as "Jack of Newbury."

"The Architects and Surveyors' Diary for 1920," edited by Mark Waterlow, B.A., Barrister-at-Law (London, Waterlow Bros. and Layton, Birch Lane, E.C., 6s. 6d. and 10s., according to diary space and binding), is as usual in every way the most complete help the architect, surveyor or builder can buy. The usual diary features are so excellent that many an ordinary professional or business man with ever so slight a connection with architecture, engineering, building and the numerous industries connected with the same, will do well to get it. The miscellaneous information is up to date and complete, and the binding and general get-up thoroughly good.

A Liverpool master builder recalls a parallel to the £5 entrance fee which the dock labourers are now charging for admission to their Union, with the object of preventing their calling from being overcrowded. As far back as 1890 the Bury Bricklayers and Hod-carriers' Society imposed a similar charge on new members for the same purpose. In that case, however, the protective measure had little effect, for when the aspiring hod-carrier was beaten off by the £5 charge at Bury all he had to do was to go to Middleton, three miles away, and get himself admitted for 7s. 6d.

At the Edinburgh Architectural Association meeting, presided over by Mr. J. R. McKay, in the Association Rooms, 117 George Street, last Wednesday week, Dr. Borthwick discussed Britain's position as a timber-producing country. Wood, the lecturer thought, was probably more extensively used for the manufacture of a greater variety of articles than any building material. It differed from stone and iron in that it was an organic and not a homogeneous substance. The properties of wood varied with its species, and marked differences occurred according to the conditions in which it grew. Soil, climate, and silviculture had each a marked effect upon the chemical and physical properties of wood. After dealing with the weight, strength, durability, evenness of grain, resonance, fissibility absorptive capacity for various preservative antiseptics of different kinds of wood, Dr. Borthwick went on to deal with the requirements for timber growth, and showed how the nature of the year rings and quality of the grain depended not only on the soil and climate, but also on the amount of skill and attention bestowed upon the growing crop by the forester. The forest areas of this country possessed distinct advantages, and, given proper selection and treatment, these areas had an economic value which entitled Britain to be recognised as one

of the foremost timber-producing countries of Europe, if not in quantity, at least in quality.

The Controller of Timber Supplies announces that timber of the following sizes is held in stock by the Imported Timber Disposal Section, Board of Trade, in excess of the demands for such sizes. He also understands that a similar position obtains in the case of privately held stocks. The Controller therefore suggests, in order that the cost of building material may be kept to the lowest figure, that persons contemplating building should endeavour to arrange to use a larger proportion than usual of such sizes for construction purposes— $2\frac{1}{2} \times 6\frac{1}{2}$, $2\frac{1}{2} \times 6$, 2×5 , $2 \times 4\frac{1}{2}$, $1 \times 4\frac{1}{2}$ unplanned boards, $1 \times 4\frac{1}{2}$ tongued and grooved flooring.

A Sub-Committee appointed by the Joint Committee of the Road Board (now Ministry of Transport—Roads Department) and the Board of Agriculture and Fisheries has, during the past six months, conducted research work with a view to obviating damage to the fisheries through the tarring of roads. The experimental work of the Sub-Committee includes the production of a road tar which could be recommended for use in the neighbourhood of fishing streams. The South Metropolitan Gas Company have produced a synthetic tar which is now under examination from chemical, biological, and engineering standpoints in comparison with a standard Road Board tar.

A site has been secured in Hampshire, where, on land adjacent to a stream, a series of fish ponds will be excavated, prepared, and stocked with trout. Special attention will be given to the drainage off the road before it is tarred, and its influence, if any, on stream life. A definite stretch of the road will be surfaced with tar and the drainage therefrom will be passed through the circuit of ponds containing fish.

In Belfast, according to the *Irish Builder*, there is a great scarcity of skilled labour; prominent contractors complain that they cannot get either carpenters or bricklayers, and the same story comes from all parts of the provinces. Most of the Belfast builders are said to be pretty busy, but say there is still a scarcity of labourers. The unemployment dole is blamed for the scarcity. In Belfast there is a prospect of a good deal of new building in the near future, if labour conditions become more settled. The Corporation have retained Mr. F. R. Crotty as expert adviser on housing, and it is proposed to take about 123 acres towards the erection of 15,000 houses. Of course, this area will not accommodate anything like the number mentioned, and, indeed, so far not a single acre has been obtained.

As a contribution to the solution of Worcester's housing problem, the Dean of Worcester (Dr. Moore Ede) has decided of his own initiative to erect two houses. He has acquired a site, the foundations are dug, materials are being delivered, and work is in progress. When at Gateshead and at Whitburn, the Dean had considerable experience in connection with the building of homes for aged miners, and since he has been at Worcester he has had further experience in providing homes for the better class as part of a garden city scheme. He says: "I believe I shall be able to build a pair of thoroughly good houses at a cost of £500 each. If I can build at that price, and secure the Government subsidy of £150, I shall be able to let them at a rent payable by the wage-earners of the city. I may burn my fingers, but I am going to try."

"Timbers and Their Uses," by Wren Winn (London, George Routledge and Sons, Ltd., 10s. 6d.), is a popularly written book by an American author, of very timely interest; for most of us will agree that more and more the truth is evident that, as Roosevelt said thirteen years ago, "Wood is an indispensable part of the material structure upon which civilisation rests." Mr. Winn has made good use of the information he has collected from various sources, as duly acknowledged in the bibliography, and the illustrations are excellent.

Sir Aston Webb, R.A., President of the Royal Academy, took the chair last Wednesday night at the prize distribution to stu-

dents of the Academy Schools in Burlington House. He said they were meeting for the first time since 1915. They had been much affected by the war. The painting and drawing schools had remained open, but all the male students who were eligible had joined the Colours. The school for sculpture was closed from April, 1916, and the same applied to the architectural school. It was the intention of the Royal Academy to erect a memorial to the fallen students, twenty-seven of whom had been killed. The site would probably be in the vestibule, and it was hoped that the work would be entrusted to the present-day students of the Academy. This year the number of students' works was very small, and, perhaps, not up to the usual standard, but many past students had not yet sufficiently recovered from wounds and other disabilities occasioned by the war to resume their studies. The Academy had appointed a special committee to consider the question of the schools. Speaking of success in art, the President said he would quote the inscription over the entrance doors of the Victoria and Albert Museum, that "the excellence of every art must exist in the complete accomplishment of your purpose." They must have a purpose; without it, they were lost. But success was only attained by labour and fixity of purpose and they must have pleasure in their work. They must never forget the work of the past masters. There was no need to go abroad to study: London provided some of the finest examples of painting, sculpture, and architecture in existence.

PROFESSIONAL AND TRADE SOCIETIES.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.—The third general meeting of the session (the first general meeting having taken the form of a dinner given to ex-service members and associates who were then demobilised, and the second general meeting having been abandoned owing to the illness of the President, R.I.B.A., who was to have delivered "An Informal Talk on Institute Affairs") was held at the Association's rooms, Royal Society of Artists Buildings, New Street, Birmingham, on Friday, 5th inst., when the President, Mr. H. T. Buckland, F.R.I.B.A., gave his presidential address. There were 52 members present. In the course of his address, Mr. Buckland gave a resume of the work and efforts of the Association during the war period, and then touched chiefly on two points. One concerned the relations of the City Council towards the profession on housing problems, and the other the lack of support that had been given the Civic Society. Speaking on housing, Mr. Buckland said: "It seems to me deplorable that a city which has educated a large number of architects at its School of Arts, many of whom were men of recognised ability, should not give recognition to men on their return from the war. This is a time of exceptional difficulties both in the architectural profession and in the building trades. We have offered our services. The necessary work in connection with house-planning and laying out of areas is being done by a Corporation department, and beyond the possibility of entering the few competitions, the architects are receiving no help. I deplore it." During the war, Mr. Buckland said, the Association formed committees to assist needy members. The effort did not meet with all the support that was expected. When housing schemes were maturing the Association approached the Council through the Housing Committee, but, as he had said, the only encouragement given was the opportunity of competing for plans for the Pineapple Estate. With regard to the Civic Society, Mr. Buckland said it was formed largely on the suggestion of Councillor George Cadbury, jun., and Mr. George Talbot. It could have been regarded as an advisory committee to help the Council on matters of planning and laying out new areas. "I have to regret that the City Council has not made the use of that society which it might have done, and which would have been to the distinct advantage of the city." A vote of thanks to the President for his address was proposed by Mr. J. A. Swan, seconded by Mr. G. Salway Nicol, and supported by Mr. R. Savage and others.

LIST OF TENDERS OPEN.

BUILDINGS.

- Dec. 18.**—The Commissioners of H.M. Office of Works, etc., invite tenders for the erection of a new post-office at Grantham.—Tenders to be addressed to The Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.
- Dec. 19.**—For erection of the first 24 houses on the Clock House site, corner of Cressing Road and Chapel Hill, Braintree.—For the Braintree Urban District Council, from plans prepared by T. A. Lloyd, L.R.I.B.A., M.T.P.T., Cardiff, and 3, Lincoln's Inn Fields, W.C.—Tenders to H. J. Cunningham, clerk, Braintree.
- Dec. 20.**—For 46 houses, for the Chester-le-Street Urban District Council.—Sealed tenders to F. J. Gray, clerk, Council Offices, Chester-le-Street.
- Dec. 22.**—For 42 houses, drainage, and site works.—For the Darlaston Urban District Council.—Plans, specifications, and forms of contract at the offices of C. W. D. Joynton, L.R.I.B.A., Bulcroft, Darlaston.—Tenders to J. Corbett, clerk, Town Hall Offices, Darlaston.
- Dec. 22.**—For eight cottages in Hook Lane, Aldingbourne.—For the Westhampnett Rural District Council.—Architect, Mr. Dovaston, A.R.I.B.A., M.C.I., Pallant House, Chichester.—Sealed tenders to W. D. Russell, clerk, Council Offices, Pallant House, Chichester.
- Dec. 22.**—For houses under the Acton Wells Housing Scheme (Contracts Nos. 1, 2, 3, 4, and 6).—For the Acton Urban District Council.—Tenders to the Council Offices, Acton, W.3.
- Dec. 24.**—For Memorial Cottage Hospital at Towyn.—For the Hospital Committee.—Architect and surveyor, F. Howarth, L.R.I.B.A., Towyn, Merionethshire.
- Dec. 26.**—For six pairs of houses at Snape.—For the Plomesgate Rural District Council.—Architects, Brown and Burgess, 9, Arcade Street, Ipswich.—Sealed tenders to the Chairman of the Housing Committee, Board Room, Wickham Market.
- Dec. 29.**—For 26 houses in Chichester.—For the Town Council.—Tenders to City Surveyor's Office, 7, Lion Street, Chichester.
- Dec. 29.**—For 52 houses.—For the Paignton Urban District Council.—Architect, F. W. Vanstone, Palace Chambers, Paignton.—Tenders to J. Hartley, clerk, Town Hall, Paignton.
- Dec. 30.**—For 64 houses at Griffithstown, near Newport, Mon., or any less number.—For the Panteg Urban District Council.—Architects, Thomas and Morgan and Partners, 23, Gellwasted Road, Pontypidd.—Tenders to T. P. Holmes Watkins, clerk, Pontypool.
- Dec. 30.**—For erection of new offices for Haverhill Council School.—For the West Suffolk Education Committee.—County architect, A. Ainsworth Hunt, M.S.A., 51, Abbeygate Street, Bury St. Edmunds.—Sealed tenders to F. R. Hughes, county education secretary, Shire Hall, Bury St. Edmunds.
- Dec. 30.**—The Commissioners of H.M. Office of Works, etc., invite tenders for the erection of a new post office at Petersfield (Hants).—Tenders to be addressed to The Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.
- Dec. 30.**—The Commissioners of H.M. Office of Works, etc., invite tenders for the erection of a new post office at Lancaster.—Drawings, specification, and a copy of the conditions and form of contract may be seen on application at Lancaster Post Office.—Tenders to be addressed to The Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.
- Dec. 30.**—The Commissioners of H.M. Office of Works, etc., invite tenders for the execution of ordinary works and repairs to the buildings in their charge in the Ashton-under-Lyne district.—Tenders to The Secretary, H.M. Office of Works, etc., Storey's Gate, Westminster, London, S.W.1.
- Dec. 30.**—For 64 houses at Griffithstown, near Newport, Mon., or any less number.—For the Panteg Urban District Council.—Architects, Thomas and Morgan and Partners, 23, Gellwasted Road, Pontypidd.—Tenders to T. P. Holmes Watkins, clerk, Pontypool.
- Dec. 31.**—The Commissioners of H.M. Office of Works, etc., invite tenders for erection of a new telephone exchange at Dewsbury.—Tenders to be addressed to The Secretary, H.M. Office of Works, Infirmary Street, Leeds, or London, S.W.1.
- Dec. 31.**—For 20 cottages on site in Norman Road, West Malling, Kent.—For the Malling Rural District Council.—Particulars and plans may be seen at, and bills of quantities obtained from, Council Offices, West Malling, Kent.—Apply to Architect, W. K. McDermott, A.R.I.B.A.
- Jan. 1.**—For 40 houses, in four pairs, and eight blocks of four, and builders may tender for the whole or for one or more of either type.—For the Wisbech Town Council.—Architect, F. Burdett Ward, M.S.A., 8, South Brink, Wisbech.—Tenders to C. E. F. Copeman, town clerk, 6, York Row, Wisbech.
- Jan. 5.**—For ten houses, Class B., at Wrating Road, Haverhill.—For the Haverhill Urban District Council.—Architect, H. B. Thake, 10, High Street, Haverhill.—Sealed tenders to J. Beasley, clerk, Haverhill.
- Jan. 10.**—For a sanatorium at Nab Top, Marple.—For the Salford Corporation.—Architect, J. Cubbon, F.R.I.B.A., 42, John Dalton Street, Manchester.—Sealed tenders to L. C. Evans, town clerk, Salford.

THE BUILDING NEWS

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New Hotel at Repulse Bay, Hong Kong, China. Messrs. Dennison, Rann, and Gibbs, architects.	
Proposed Palace at Dharakota, Madras, India. Elevation and plan. Mr. Stephen Wilkinson, F.R.I.B.A., M.S.A., architect.	

Currente Calamo.

The Housing Bill was read a third time in the House of Commons last Friday without a division. Sir John Hope and Lt.-Commander Williams wanted grants for enlarging as well as constructing houses, pointing out that many rural houses, especially in Scotland, consisted of two rooms, or even of one, and that their enlargement would be of real benefit. Dr. Addison, however, declined to do anything of the sort. Major E. Wood thought the Government's intention was to provide additional housing accommodation. They did not want anything in the nature of a pedantic bureaucracy. Dr. Addison said they were not out for pedantic bureaucracy, but for additional houses. Major E. Wood did not think that the right hon. gentleman was entitled to repudiate any suggestion of pedantic bureaucracy in view of past experience. Mr. Tyson Wilson insisted that builders were prevented from putting up houses by a "ring" in the supply of materials. The subsidy, he said, would subsidise both builders and the "ring," and in the end the Government would be forced to deal with the trusts. A White Paper on the subject would be issued, Dr. Addison said, but, while he admitted that the rise in the price of many materials was "appalling," he thought it would be a mistake to assume that that was due to profiteering. "If the Bill produces houses," reiterated Dr. Addison, dealing with these and other objections, "I shall be satisfied, and I shall not be much concerned about whose pockets the money goes into." Unfortunately, doubts at the finish as to the probable effectiveness of the Bill even in producing houses—at any rate, till after the seasonal frosts are over and spring has returned—rather chilled members. "So it comes to this," exclaimed Mr. Hogge, giving merciless utterance to the general thought, "that after more than twelve months the Minister has to protect himself against the possibility of getting nothing done for another six months by putting the blame on the weather!" The amendment was rejected by 90 votes to 21.

did not know. As usual, he omitted all reference to the fundamental cause of the shortage of houses, and the drawbacks to building, which originated with his own Finance Acts of 1909-10. These, so Mr. Bonar Law told the House of Commons last week, cannot be dealt with but as a whole, which was nonsense. The Premier, of course, was vaguely eloquent about the future. Like his fellow-countryman, of whom Gray sings—with a slight alteration to suit present facts—his appeal is:—

Visions of glory, spare my aching sight,
Ye unbuilt houses, crowd not on my soul.

He "hopes" to remove all control of building materials after January 1 next; and he "trusts" that "local patriotism" will find the huge sums that are wanted; and he appealed to the labour men to attract new recruits by permitting dilution. That, the representative of the Building Trades Operatives Union promptly informed him, would not be allowed. A very lame apology for the charges of profiteering made by Sir Tudor Walters was vouchsafed. Mr. Lloyd George said "he understood that Dr. Addison made it quite clear that as far as the Government are concerned they were levelling no charge against the builders." Just now a good many more people, supposed to be officials or supporters of the Government, seem to be levelling charges against it, about which possibly it is equally "concerned." They are no immediate "concerns" of ours. So far the Government has nearly destroyed private enterprise and put a stop to private building. We shall see whether the new doles to builders will restore "the normal course of business to the ordinary trade channels."

It is a pity that there are not a few more politicians among the 120 Coalitionists who came to heel like lambs last week when Mr. Bonar Law threatened them with the consequences if any considerable number of them voted against the Coal Prices (Emergency) Bill last Friday night. Mr. J. G. Gould, the shipowner, and Unionist M.P. for the Central Division of Cardiff, at any rate, has the courage of his convictions. He is applying for the Chiltern Hundreds, and will appeal to his constituents to return him again, but as an anti-Coalitionist. We heartily wish him success. To an interviewer Mr. Gould declared he could not support a Government whose policy

was so vacillating and uncertain, and he complained of the way in which the housing, pensions, and trade questions had been handled. "I don't wish to stay in politics," he said, "if I have to follow the whip of any man or party when the principles involved are opposed to the interests of my constituents and country. I am going to announce to the Cardiff Unionist Association that I can no longer support the Coalition Government, which seems to have only consideration for the terrorist section of the trade unionists, and has no regard for the middle and lower middle classes. Boilermakers, shipwrights, and platers can make two thousand a year with five, six, or seven hours a day casual labour, and I see no reason why postmen and shoemakers, who work a steady ten hours a day, should be happy with £2 or £3 a week. The Government are playing up to the aristocrats in labour. Any artisan who gets over £400 a year is a capitalist as much as I am, and I don't see why he should be treated differently. The trouble about the House of Commons is that so many members are looking for security of tenure. I don't care whether I sit again or not. The country must be run by men who can talk to trade union official extremists as they should be talked to."

There seems still trouble about the adopted designs for regimental headstones for the war graves, and it seems from Mr. Churchill's statement in the House of Commons on Tuesday that Lord Balfour of Burleigh has been invited to submit a fresh cruciform design which would not be open to the same objections and would not involve a departure from the principle of treatment for all war graves, whereupon Lord Robert Cecil asked: "Does the right hon. gentleman not see that this is a question in which the relatives ought primarily to be considered, and the dictates of artists and architects and all that kind of thing are utterly improper?" The sneer at "artists and architects and all that kind of thing" might have been spared. They, at any rate, have had little chance of offending the sensibilities of relatives of the brave men whom all surely wish to commemorate worthily. The horrors of the ordinary cemetery are, we trust, not to be reproduced in the Great War Cemeteries.

*Mr. Lloyd George told his hearers at the Central Hall on Tuesday little that we

The British Academy, at the invitation of and in conjunction with the Palestine Exploration Fund, and with the concurrence of the Foreign Office, have appointed a committee for the purpose of establishing a permanent British School of Archaeology at Jerusalem. While the Palestine Exploration Fund will continue its work as before, the objects of the school will be: To facilitate the researches of scholars, to provide instruction and guidance for students, and to train archaeological excavators and administrators. The school will assist in every possible way the excavations and explorations of the Palestine Exploration Fund. It may from time to time undertake investigations on its own account, and such operations would be conducted in harmony with the work of the Palestine Exploration Fund. The scope of periods and subjects of study will be unrestricted, ranging from the Stone Age and the early civilisations of Amorites and Canaanites through all the history of Palestine and Syria, and their relations with the nations around them, down through the Græco-Roman age to the Arab Conquest, the Crusades and the later Mohammedan period. The subjects will include all those for which archaeology provides material: Art and antiquities of all kinds, the history of ancient religions, topography, geography, and other relevant studies. The committee undertake that no modern religious or political question, nor any personal matter of religious persuasion, will be allowed to affect the policy of the school, which is conceived on the broadest lines in an organised effort to cope with an existing national need. The school will provide and maintain classified catalogue of available archaeological material to serve as a basis of research and study. The assistance of volunteers for this work is cordially invited. Students with some special tastes or training can render valuable service. It is a matter of satisfaction that arrangements have been concluded for cordial collaboration with the American School of Oriental Research. The committee have definite hopes of being able in due course to extend such co-operation so as to include French archaeologists in a similar way. Students and workers will thus reap the full advantage of a more complete and efficient staff, curriculum, library and material. Just as Palestine was in the past the meeting place of civilisations, so now the committee aims at rendering the school a convenient starting point for students desiring to pursue paths further afield. Jerusalem will in future be an increasingly convenient centre from which to proceed to Sinai, Moab, Damascus, the Amorite and Hittite country of the north and eventually to Mesopotamia. To this end, branches of the school will be created as occasion may require and one at Baghdad is already in contemplation. A site for the building of the school in a very favourable position in Jerusalem has been provisionally secured. Meanwhile work will be begun in temporary quarters which the present administration has undertaken to place at the disposal of the school. With

the object of expediting arrangements, the committee have provisionally appointed Professor J. Garstang as director. He has already visited Palestine, and in view of his reports and of all the circumstances the committee feel it to be an urgent public duty to proceed actively with their programme. They, therefore, appeal confidently to the British public for financial support to make this possible. All communications should be addressed to the Secretary, c/o the Palestine Exploration Fund, 2, Hyde Street, Manchester Square, W.1.

We have been saying a good deal lately, and shall say more anon, about the necessity, from the architect's and householder's point of view, of studying the essentials of heating and lighting, more especially in the designing and planning of houses, and particularly of workers' houses. The Electric Development Association, Hampden House, Kingsway, W.C.2, is issuing a very interesting series of pamphlets and leaflets, a selection of which we are sure they will send on to any reader mentioning this journal. We may add that the advice given is totally free from the puffery of some individual advertisers, but is tendered wholly to benefit the public by urging the adoption of modern effective means, instead of obsolete methods. Not the least advantage gained by their perusal will be the acquisition of the capacity to select really reliable appliances and fittings, instead of the rubbish that is sometimes forced on the inexperienced by makers and vendors whose wares are as behind the times as they are costly, because inefficient and short-lived.

WAR PAINTINGS AT THE ROYAL ACADEMY.

The 925 pictures and drawings selected out of 3,000 works of art already in the possession of the Imperial War Museum will prove the most popular exhibition at the Academy in the memory of most of us, and the more so because the selection has been the most comprehensive ever seen. Whether nine out of every ten visitors will follow the paeans of exultation with which some of our fellow-critics are hailing the long-predicted triumphs of the Anarchists and Bolsheviks of Art sufficiently to understand some of the remarkable representations, which are certainly neither pictures nor photographs, of the scenes and events depicted, we do not know. Some of our younger brothers, of the sort, for instance, who have seldom failed to find symbolic meanings of spiritual consolation in their comparison of Armageddon with the great struggle which—let us hope—ended last year, may. Their own facility as experts in the production of the pen-pictures of up-to-date journalism has, doubtless, much in common with the triumphs of the impressionists, the cubists, and the rhomboidists. A dozen years hence they will be hailing with just as much intelligent enthusiasm the slower but safer evolutionary processes which have transformed the really gifted if erratic student into a worthy compeer of the older masters at whom he railed in the days of real but raw romanticism. Meanwhile, the critic who still appreciates reticence, and the ability to thrill the beholder without driving him into

hysterics, will continue to admire the capability without sacrifice of dignity or truth of such contributions as those of Mr. D. Y. Cameron's "The Battle of Ypres" (78), or Mr. Charles Sims' "The Old German Front Line" (81), or his "Camouflaged Quarry" (34), from all of which the visitor will learn more of actual facts than from all the gruesome realism which he will pass by with a shudder, or more probably with a mental protest against such efforts "to make his flesh creep."

Anything like a review of the mass of exhibits is out of the question, so numerous are the contributions of individual artists. Sir John Lavery, for instance, exhibits no less than 53, 47 of these filling the whole of Gallery X. Of his others we like "Anti-Aircraft, Tyne-side, 1917" (55). Mr. Muirhead Bone and Mr. Francis Dodd are two other prolific contributors, occupying Gallery VII. entirely, and appearing in other sections with a total of over a hundred exhibits. Mr. Rothenstein sends fifteen, one of the best being his "The Watch on the Rhine" (8). Sir William Orpen, R.A., has 22, the most vivid being 161-166.

Mr. C. R. Nevinson's "The Road from Arras to Bapaume" (3), interests us most of his 16. Mr. Walter Bayes' "Road to Peace" (237) is a very welcome one. His two others are "The Underworld" (694), and "Landing Survivors from a Torpedoed Ship" (250). Mr. George Clausen scores well with his "In the Gun Factory at Woolwich Arsenal" (85), and his series "Making Guns" (578-584) is well done and informative. Mr. Frank Brangwyn, R.A., illustrates "Making Sailors" (585-590), and also shows "The Freedom of the Seas" (616). Mr. Augustus John is only represented by "The Dawn" (608). Mr. Philip Connard, A.R.A., has no less than 28 hung. Mr. Hughes Stanton, A.R.A., has the really best ruin picture in the exhibition, "Lens, 1918" (22); none who have not seen the devastated town can realise the desolation of the place into which we poured shell, week after week, or sufficiently appreciate the veracity of Mr. Hughes Stanton's picture. His others are "The Lens-Arras Road" (90), the "St. Quentin Canal, 1918" (384), "Arras" (396), and "The Cemetery at Mont St. Eloi" (400).

Mr. John S. Sargent, R.A., shows his "Gassed" (84), which most readers have already seen at the Academy. His others are "The Sunken Road, Ransart" (408), "Scots Greys" (409), "Thou Shalt not Steal" (410), "Crashed Aeroplane" (411), "A Street in Arras" (412), "Gates of a Chateau, Ransart" (415), "On the Somme" (416), "Old Bivouacs" (445), "A Wrecked Tank" (446), "Horse Lines" (447), "The Mill, Arras" (446), "A Wrecked Sugar Refinery" (449), "A Camouflaged Tank" (450), "Interior of a Hospital Tent" (452), and "Tarpaulin Over a Dug-out, Ransart" (455). There are numerous portraits of celebrities, and others. Mr. Ambrose McEvoy has 22.

Certainly some of the most interesting work has been done by the amateurs, especially by those actually in the war. Naturally, these saw things, which, if they lacked the skill to make the best of artistically, they have been able to give a better record of than some of those who, with fewer opportunities, have sought to make more or less sensational imagination help out facts. Among the best the majority of the visitors may not improbably find most to please them, recalling as it will experiences and incidents with which they are more or less familiar, or which are associated with those of their kinsfolk and friends.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

LONDON TOWN-PLANNING SCHEMES IN 1666.

The town-planning schemes of Wren and others that followed on the Great Fire of London were under discussion at the meeting of the Royal Institute of British Architects on Monday last, when Mr. Sydney Perks, F.R.I.B.A., the City Surveyor, etc., read a paper on the subject. Mr. Guy Dawber was in the chair.

The reading of the paper was preceded by an announcement that Mr. St. Clair Baddeley had presented to the library 120 original drawings of Palazzi di Genoa, done by the order and executed under the direction of Peter Paul Rubens, from which the engravings in Rubens' "Genoa," published in Antwerp in 1622, were made. A vote of thanks was passed to the donor.

Mr. Perks then read his paper. He said that after the fire the rush and bustle in the production of new plans for the rebuilding of the city was suggestive of American methods to-day. Hooke produced a plan which he submitted to the Royal Society on September 19, and to the Corporation on the 21st, his idea being that he should approach the King, stating that his plan was approved by both these bodies; but Wren was far too good a business man to waste time with public or scientific authorities. He went straight to the King. Evelyn recorded that he also produced a plan, and took it to the King within two days after the fire had ceased, but found that Wren had got the start of him.

Of Wren's plan Mr. Perks said that it had received unlimited praise and very little detailed criticism. Wren had dealt with the problem in a drastic manner, sweeping away all the streets within the fire boundary and planning new ones. There were to be two wide roads from the East, one from Leadenhall Street in the direction of Aldgate and one from the neighbourhood of the Tower. These were to meet at St. Paul's Cathedral, which would be in the acute angle of the junction and occupy only a small portion of the present site. "Parentalia," by Christopher Wren, junior, was interesting, but statements that it made about this plan, and about the subsequent rebuilding, were gross exaggerations, or even absolutely untrue. The book stated, for instance, that Wren was appointed surveyor, general and principal architect for rebuilding the whole city, and that he took "to his assistance Mr. Robert Hooke, to whom he assigned chiefly the business of measuring, adjusting, and setting out the ground of the private street houses to the several proprietors." But extracts from the Journal of the Court of Common Council showed that Mr. Hooke, reader of mathematics in Gresham College, was appointed, with others, by the Court of Common Council to "joyn with Dr. Wren, Mr. May, and Mr. Pratt," who had been appointed by the Privy Council to organise the rebuilding of London. "Parentalia" stated that Wren, in designing his new city, had before him as an object that the streets were to be as nearly parallel as possible and were not to join at acute angles. But in Wren's plan, as drawn, very few of the cross streets were at right angles to the main thoroughfares. This was a very serious defect in town planning, so much so that when Dance laid out King William Street he resorted to the device of making the side streets join up at a right angle, and then, after a few feet, break away at the old angle. Had Wren's plan been carried out parochial and ward boundaries would have disappeared—some of these had existed since Norman times. Eighty-nine churches besides six chapels had been burnt. Wren provided for the building of only seventeen churches and no chapels. No provision was made for the preservation of the old burial yards; these would have been desecrated. Among the buildings that would have disappeared were the Guildhall, with its magnificent crypt; the crypt of St. Mary-le-Bow, Merchant Taylor's Hall, St. Alphage, London Wall, and every other old church within the fire area. As to the Guildhall, Wren intended to build this on another site, forming a large square block with streets on each side. It was supposed that at a

later date he was employed by the Corporation to restore the original damaged structure. Whether he carried out the work or not was unknown, but whoever it was, it must have been someone with no knowledge of Gothic architecture, or a profound contempt for it. The old Gothic roof had fallen in, and half the floor had collapsed and with it some fine vaulting. The architect who restored the building made no attempt to replace the roof with a structure similar to the old, but levelled up the walls, built hideous circular headed windows and erected a low-pitched roof with a flat ceiling. In the case of the crypt, the stones were on the site and the vaulting was simple, but the architect built what are usually called a series of railway arches in brick, using in the old Gothic stonework, binding it in with the bricks or using it as rubbish to fill in the spandrels of the vaulting. In the case both of the Guildhall and the crypt, the work looked like the temporary measure of a man who intended to pull down and rebuild. In the case of the porch it was known that Wren was consulted; he was responsible for a classic pediment similar to the upper part of Temple Bar jammed on top of beautiful fifteenth century work. Mr. Perks illustrated his remarks by a number of lantern slides. Some of these showed Wren's plan in various stages of its developments; others showed the plans of other architects. Hooke's plan, he said, could not be found; but a Dutch plan, which he showed, might be Hooke's; its author was even more drastic than Wren. Evelyn's plan was among those shown, but as to the discourse which was stated to have accompanied it when presented to the King, this could not be found. It was thought there might be a copy at Wotton House, and a search had been commenced, but as yet there was no good news.

As to the fate of the plans, Mr. Perks said this was a matter very soon decided. A letter from Sir William Morrice to the Lord Mayor on September 10 showed that at that date Wren's plan was before the King. This letter forbade rebuilding on old sites, but only three days later the King signed a declaration allowing rebuilding on the old sites, but stating that the principal streets would be widened. This declaration showed that a Building Act was contemplated, and in due course the Bill was introduced and passed in the following February. A statement of Gwynn that Wren's scheme had been approved by Parliament, but defeated by faction, had apparently led to an idea that Wren's scheme had not been carried out because of the opposition of the aldermen and other interested parties. But a search of the records of the Court of Aldermen, the Court of Common Council, and elsewhere had not produced any documentary evidence in support of the statement. Wren's was a Utopian scheme. The new roads would have had to be run through the remains of houses and churches only partially destroyed, and which would, of course, have to be razed to the ground. Basements and cellars would have had to be filled up to form foundations for the new roads; the old supply pipes for water would have been useless. The scheme would have taken years to carry out, and meantime people would have been homeless and the trade of the City stagnant.

THE DISCUSSION.

Professor S. D. Adshad moved a vote of thanks to the lecturer. Mr. Perks, he said, had rather dwelt on the point of view that Dr. Wren was more of a business man than an architect, but his (Professor Adshad's) view was that a really great architect must necessarily be a good business man. He did not think Wren had really produced his plan in three days; he had been thinking about it during the three months that the fire had been burning. Very little town planning had taken place in Europe at that period; there had been some in Italy, but Louis XIV.'s great schemes were only in their adolescence. Therefore Wren's scheme was an extraordinarily original undertaking, and, considered from that point of view, and compared with all the plans that had been produced subsequently, it was an extraordinarily fine piece of work. One

point of its excellence was that of all the plans shown Wren's was the only one that continued a street of first-rate importance parallel with the river. Throughout the world in all towns successfully planned, if there was a river front, the principal street of the town was the second street from the river front. Another point was that the cross streets turned into the main streets at right angles.

Mr. Perks: Only in three or four cases.

Professor Adshad said that there were only three or four cases where the angle was in any sense acute. Mr. Perks was counting as not being at right angles a lot of streets where the difference was only of two or three degrees, which made no difference. Dance had cut off corners and given very awkward building sites, but Wren had given practically square sites every time.

Sir Banister Fletcher said in his opinion Wren never believed his plan could be carried out. It had many weak points. One was that it took no account of the main thoroughfares of those days. Any town-planning scheme that left these out of account must be a failure. Mr. Perks had been hard on Wren in the matter of the Guildhall. What would any other architect have done? In Wren's time people had come to look on Gothic architecture as a degraded form of the art, just as in a few years' time we should come to look on the architecture of the present time as a degraded form of the art. It was a question of fashion, and Wren reconstructed in the style of the age. The Guildhall had been altered of recent years. If we went to the top of St. Paul's and looked round on the fifty churches that surrounded it as satellites we should see that Wren had left London one of the most beautiful cities in the world.

Mr. Wm. Woodward said that one criticism of Wren's plan was that he had thought of it in two or three days. But he (Mr. Woodward) had been at the game of improving London for thirty or forty years, and his conceptions only occupied three or four minutes. As to the accuracy of the statement that Wren had not been allowed to carry out his original plan, he relied on the life of Sir Christopher Wren, written by James Elmes in 1823. Elmes stated that Wren had experienced the ingratitude of contemporaries and the apathy of successors more than any other man of equal talents, public utility and celebrity. His scheme provided for a fair quay or wharf along the riverside, and prohibited the erection of any houses to be inhabited by brewers, dyers, or sugar bakers; because the smoke from their works contributed so much to the unhealthiness of adjacent places. The Lord Mayor and Aldermen were to provide places for these trades, the proprietors being compensated for disturbance. Of this plan Elmes said it had been gradually rendered ineffectual and nearly destroyed by the cupidity of the brewers and others affected. We did not know what influences these had brought to bear to prevent the carrying out of Wren's plans; had those plans been carried out the City of London would have been far better than it is to-day.

Mr. Kettle (librarian at the Guildhall) said that Elmes' book was quite unreliable. It contained many mistakes.

The Chairman said we must at any rate congratulate ourselves that Wren's plan had not been carried out in its entirety. Had it been we should not have had St. Paul's.

The vote of thanks was unanimously accorded.

Mr. Perks thanked the assembly, and replied to some of the points in the discussion. He said he wanted to throw light on the subject, and had given chapter and verse for everything he had come across. The opposition to the widening of the streets and so forth was done under the Act. On September 10 the king said that if anybody built his house would be pulled down again, but within three days it was decided that people should be allowed to build on their old sites, and that London should not be rebuilt to a new plan, but that some of its streets should be widened. An Act was passed to this effect, and all the discussion took place under that Act. Sir Banister

Fletcher was probably right that Wren did not intend or expect his plan to be carried out.

ZEEBRUGGE WAR MONUMENT COMPETITION.

In the absence of Princess Louise, Mr. Herbert Samuel opened the exhibition of models and drawings, some forty odd in number, at the Royal Institute of British Architects Galleries last Tuesday. The chosen scheme, marked 88, formed a feature in the preliminary exhibition held at Brussels, when about a hundred competitors were represented. A committee, composed of representatives of this country and of Belgium, unanimously awarded the first prize to M. Arthur Dupon, sculptor, Antwerp, and M. Jos. Smolderen, architect, Antwerp. Second prize was given to the work of Mr. Thos. S. Fitt, A.R.I.B.A., architect, and Mr. W. Reid Dick, sculptor, and the third award to Mr. B. Clemens, sculptor, and Mr. E. Frazer Tomlins, architect.

The great feature of the selected design is its complete lay-out. A fine obelisk carried on an arched plinth forms a waterfall fountain with extended groupings of dark bronze figures defending the citadel and vanquishing the dragon. The Princess Cleodolinda has escaped into the pool in front of the monument. St. George in gilt bronze surmounts the column. Flanking the centre-piece a dwarf wall is carried right and left, bearing in big letters "Vindictive," "Iris," "Daffodil," "Intrepide," "Thetis," "Iphigene," while on the back are bronze figure bas-reliefs. The scheme in many respects is worthy of the occasion.

The second design, which bears the device of a Lion Rampant in a circle, is marked 32. It is less pretentious than the chosen design and more restricted in scale. The obelisk is of dwarfed proportions, foreshortened at the summit, without any sculptured finish. The masonry is couched at the lower part with rusticated bands and flutings and otherwise meritoriously simple. A refined statue of "Peace," well in scale and vertically treated, stands in front over the big plain inscription panel. The monument rises on a square platform reached by a wide stairway set out in two flights enclosed by big stepped walls, and the difference between the paved plateau and the quay roads is formed by grass slopes with nice and easy lines, giving a spreading base to the whole thing. Round the plinth are bold bronze reliefs of figures arranged to give a rounded general contour and strength of sculptured scale, which in execution might easily err on the side of coarseness.

The design given the third place, bearing the motto "Argonaut," is a great cenotaph with a well-modelled seated Lion. The dignity of this work is unquestioned, but it wants a more decided base. The present little range of two steps is out of proportion to the massive masonry above.

The fourth scheme is very foreign, and bears the name of "The Nelson Touch." The conception is entirely different from the other prize designs, and has a crowded appearance. In the midst is a lighthouse tower rising above gabled walls rather like house-fronts. These, we presume, are the keepers' quarters. At one end of the composition is a big boat with "Victory" at the helm, giant-like men hauling the vessel into port. At the other extremity is a circular wall flanked by a pair of squat towers. In the centre of the segment is an equestrian statue of St. George on an octagonal pedestal, in the facets of which are cleverly arranged statues of soldiers, but they are not in scale with the before-named seamen.

There are a large number of good models and several interesting designs and fine drawings. Those of the first and second prize works are well worthy the mention of their clever draughtsmanship.

At its meeting last Monday the Executive Committee of the Architects' and Surveyors' Assistants' Professional Union unanimously elected Mr. G. B. Tubbs, A.R.I.B.A., M.S.A., to be an additional honorary assistant secretary, in order to cope with the greatly increased work and membership of the union.

THE NEED FOR MORE CARE IN WAREHOUSE DESIGN.*

By HENRY ADAMS (MEMBER), M.INST.C.E., M.I.MECH.E., F.S.I., F.R.SAN.I., ETC.

My long association with this Society has impressed me with the fact that it is always in the forefront on any question that affects the reputation and progress of architects as a body, and I venture to think that the subject of this paper will appeal to the members at opportune, especially now that new methods of construction are coming so largely into use. In the old days, fifty years ago and more, warehouses were constructed without any special attention to economy of material, walls were thick and window openings were small, so that there was ample stability; the floors were substantial and the fir pillars or cast-iron stanchions supporting them were placed at not more than 10 ft. to 12 ft. 6 ins. centres, so that the bending moments were small; and the height from one floor to the underside of the next one varied usually from 7 ft. 6 ins. to 8 ft. 6 ins., so that, except in the case of a paper or ironmongery warehouse, the floor could hardly be overloaded. Then the beams being of wood indicated any excessive strain long before they were loaded to a dangerous extent. The chief risk was failure from decay of the ends of the floor beams or roof principals built into the walls, and, of course, from fire.

I have found also in warehouses some cases of overloading timber beams on the supports, the area of support being insufficient to reduce the intensity of the load to the safe limit. Experiments on timber are incomplete in this respect, and the loads borne by the end grain as pillars give no clue to the safe load across the grain upon the beams and sills. My experience shows that the maximum for safety is 2 cwt. per square inch on fir, and that half this is enough in ordinary cases. The safe load on the end grain of a post may be 4 cwt. per square inch if not more than 10 diameters long, and half that for a post 20 diameters long. The ultimate compression on the end grain of a cube of Baltic fir is 2,500 to 5,500 lbs., or, say, 22½ to 49 cwt. per square inch.

About the year 1860 rolled iron joists were introduced by Messrs. Homan and Phillips, and we had then an internal framework which, although not combustible, was always a source of great danger in case of fire, from the softening and collapse of the joists pulling in the walls. The connection of the stanchions or pillars from floor to floor was often inadequate, and instead of forming a tie to the outer walls the ironwork was chiefly kept in place by them. Then, again, the architects, not realising the increased necessity for learning the principles of structural stability, sometimes cut about the ironwork to a dangerous extent. The most notable case in point was perhaps the underground dining hall of King's College, London, where the top flange of a cast-iron girder was cut through to allow the placing of cross girders, which resulted in a sudden collapse. A very serious case of this kind came under my notice a few years ago in the North of England. Part of a warehouse of several floors was wrecked after working hours one evening, and the secretary and a clerk killed. I was called in to investigate the matter, and found the collapse was due to the top flanges of some main girders having been cut through where the cross girders took their bearing—that is to say, the girders were weakened just where they were required to be strongest—and the failure was called an "accident." The warehouse had been erected thirty years, but had been on the point of failure all the time, and had the collapse taken place only the next afternoon the whole board of directors would have been killed, as well as many of the workmen. The admirable section handbooks issued by the leading steel manufacturers are apt to give architects a false idea of security in using the tables of safe loads. There is, first, the difficulty of determining the loads that will come upon the girders, and then where the distribution is irregular, determining the maximum bending moments and converting those into equivalent safe loads. Many architects fail to realise the existence

of negative bending moments over the intermediate supports, which often exceed the positive bending moments when the girders are continuous, and must be fully provided for. The collapse of a race-stand was accounted for by the negative bending moments which had been neglected. In one of the London markets I found the actual stress in the compression members of some wrought-iron lattice girders was over seven tons per square inch where it should not have exceeded three tons, so that the factor of safety was a vanishing quantity. The managing director of an important company came to me in great trouble one day; they were having a new one-storey factory constructed over a large area, and had just been informed that over forty steel roof trusses, with their supporting stanchions, had collapsed during erection. In this case I found the cause was insufficient shoring and bracing of the steelwork while being put together, but I also found that there was insufficient strength in various parts, and that, had the failure not taken place when it did, the catastrophe might have been much more serious.

A fruitful but often unsuspected source of overloading is the concentration of weight over a limited area of floor space, although the total load on the floor at the time may be trifling compared with what it would carry uniformly distributed. When I was assisting the London County Council in drafting the "Steel Frame Act," I urged that the notice which reads "In every building of the warehouse class, a notice shall be exhibited in a conspicuous place on each story of such building stating the maximum super-imposed load per square foot which may be carried on the floor of each story" was not sufficiently explicit, and I desired to insert "on any portion of" before "the floor of such storey," but was overruled. I have found printing offices where parts of the floor have been loaded with more than double the authorised allowance, and in some cases the rolled joists have been showing serious deflection, which might lead to failure at any time, involving the surrounding structure as well as the overloaded portion.

On March 31, 1919, a seven-story warehouse at Liverpool collapsed, when several persons were killed and many injured. The building was said to be 150 years old, but the Government were using it for storing seeds, grain, beans and peas. It is probable that the load exceeded what should have been put on a new building, as these articles weigh about 50 lbs. per cubic foot. Sacks of grain close stacked in one tier weigh 1½ cwt. per foot super, but they are often stacked in two tiers when there is sufficient height, and loose grain is stored as high as the structure and appliances permit without reference to the load put on the floor thereby. Every warehouse should be designed for a minimum load of 2½ cwt. per square foot, whatever the present intention of its use may be.

In the case of rolled joists as stanchions, those sections should be selected that have the least difference in the inertia moments, or the section modulus, in the two directions, and for this reason broad flange beams make good stanchions. Then it should be remembered also that a load coming on one side of a stanchion, even though it is bracketed on to the web, introduces a bending moment which puts a far more serious stress upon it than is given by a central or axial load. Generally speaking, a load from a girder on one side of a stanchion will be equal to 2½ times the same load carried centrally. If the girder is continued over the top of the stanchion, but loaded on one side only, the effect will not be quite so great, but even then will often have the same result upon the stanchion as if it were fully loaded on both sides.

Cast iron pillars are now discarded for warehouse construction, owing to the difficulty of securing sufficient stability between the various floors. In America, some very serious failures have occurred from the use of cast iron pillars, the buildings collapsing like a house of cards.

Piers projecting from walls should be well bonded to the wall, and the foundations carried round them to support the additional

*Read before the Society of Architects, December 18, 1919.

load. In this connection I may remind you of a curious fact that I proved in the last paper I had the honour of putting before you, viz., that buttresses 18 in. by $4\frac{1}{2}$ in., 12 ft. centre to centre, added to a 9 in. wall 6 ft. high, instead of reducing the stresses in the brickwork due to wind pressure, increase the compressive stress by 30 per cent. owing to the larger mass being collected nearer the neutral axis.

The foundations for the stanchions of a warehouse require thoughtful care, as the chief loads are there concentrated. I remember a glass bottle warehouse at Camden Town, where the pillar foundations sank considerably directly the warehouse was filled. Most books on construction give tables of the safe load upon different soils, but the soils themselves are not found to be labelled when the excavations are made, so that the architect has to judge for himself what they are capable of carrying. If he limits the load to $1\frac{1}{2}$ tons per square foot on gravel and 1 ton per square foot on clay he will generally be safe. There are many cases where it might be quite suitable to put four times this load upon the soil but then one must be quite sure of all the circumstances affecting the case. On gravel, the bottom of the foundations may be as little as 2 ft. 6 in. from the surface, but on clay, if they are less than 5 ft., considerable risk will be run from expansion and contraction due to alternations of moisture and drought. On one occasion in inspecting the foundations for a manager's office and residence at some works I had designed to be erected on made ground, I took the precaution to test the bottom of the trench with a pavior's rammer and discovered two or three catwalks of old lath and plaster partition just below.

Some of the greatest difficulties occur in connection with foundations, particularly for riverside warehouses. The soil generally varies from a light open ballast to a semi-compact mud, liable to become fluid when penetrated by moisture. These are usually followed at a depth of 12 to 18 ft. by a good layer of firm gravel with London clay below. The gravel will carry possibly 5 or 6 tons to the square foot with safety, but I do not put more than 3 tons to the square foot on it as a general rule. In many cases the foundations have to be supported upon the light soil above, as without basement rooms it will not pay to go down to the firm gravel, and then a reinforced concrete raft is the only feasible plan.

The introduction of reinforced concrete is still sufficiently recent to be able to call it a new method of construction, and as such there are naturally many pitfalls to be guarded against. At first even the experts did not know what contingencies they had to meet and shear stresses were ignored. They also failed to appreciate the importance of grading their aggregate so as to get denser concrete. They permitted the use of coke breeze, and this was unfortunately emphasised by the British Fire Prevention Committee showing that a breeze concrete floor did not collapse so soon as one made with flint gravel or limestone, but it has many defects. I have, unfortunately, had before me a number of cases of failure of reinforced concrete buildings, but the causes may be summed up under two heads, ignorant designing and careless workmanship, and they were often associated. In one case the reinforcement of the floor beams did not reach to the ends, so that they simply sheared through the concrete when the load came on. In another case, the floor fell directly the supports were removed, because the cement was deficient in quantity and quality. A warehouse, constructed with a flat roof and parapet wall to act as a tank, was partially wrecked by letting the overflow pipe become stopped up so that the water level rose until the roof gave way. A factory with very heavy loads was constructed with a substantial basement, but owing to the shear members of the beams being displaced during construction, dangerous cracks developed, and very expensive brickwork supports had to be provided. At the same place some of the pillar reinforcement and even the pillars themselves were not over each other on adjacent

floors, so that undue stresses were caused, and the whole job was unsatisfactory. In another case of collapse, the reinforcing rods of the floor slab had been cut through to allow of circular openings being made and no trimming round the hole was provided to carry the load, the adjoining steel rods only being sufficient for carrying the portion of slab covering them. Another case, where a new factory collapsed with fatal results before the erection was completed, demonstrated almost every possible fault. The concrete span roof had no extra reinforcement at the part where the maximum stress occurred, and the roof principals were not connected to the wall piers, only rested on them. The reinforcement in the latter stopped short some 2 ft. 6 in. from the eaves. Many mistakes were made in calculating the sectional area of the reinforcement, and in the wide foundation to the walls it was shown at the upper side instead of the lower. Then as to execution, the work went on very slowly and continued through a frosty winter without any precautions; the foreman and men were changed during the time; the aggregate for the concrete was obtained on the site and not washed; part of the "sand" consisted of the dust from broken bricks; the brand of cement was changed during the progress of the work; after the collapse there were places found where the pebbles could be taken out in loose handfuls, showing absence of cement and improper mixing; at other parts, the concrete had been frost-bitten and was as soft as if just mixed, although perhaps three months old; ends of the reinforcing rods were sticking out of the sides of the beams; some of the pillars were bent and out of upright, showing carelessness in fixing and shoring the formwork. The Concrete Institute have just published a 6d. pamphlet giving detailed instructions to Clerks of Works and others about the execution of reinforced concrete work that should go far to prevent such gross practices in the future. The Reinforced Concrete Regulations of the London County Council lay down the rules of designing with sufficient clearness and fullness to enable a conscientious man to prepare a safe design, but that is not sufficient unless the greatest care can be taken to supervise the execution of the work. Some authorities insist that the calculations shall accompany the designs, before they can give their sanction to the erection. The only advantage in this is that some calculations will be imperative, it will not in any way ensure that the building is properly or safely designed. If the idea is that it will enable the district or local surveyor to check the design, I can only say that the calculations would be of no use to an incompetent critic, and a competent one would rather be without them, and make his own calculations.

As a fire resisting material, reinforced concrete is only approached by good brickwork, but it has the advantage over the latter in being capable of being used alone for floors, staircases, etc. In the great fire at San Francisco, its superiority was most notable, and equally so in the results of the great explosion at Silvertown. Reinforced concrete has another distinct advantage, it is that any damage caused to it is generally confined to that particular spot. For example, at Port Talbot a 4,000-ton steamer ran into a reinforced concrete jetty and buried its stem in the front portion, but the damage was purely local and the cracking of the deck did not extend more than 3 feet beyond the point where the ship's stem came to rest. Another instance of the localisation of damage when reinforced concrete is used occurred at Lens, in France, where a derailed train of railway wagons ran into one of the supports of a coal bunker and broke it through, but no collapse occurred, although the bunker contained 1,200 tons of coal.

Reinforced concrete is particularly well adapted for warehouse construction, providing that it is used intelligently. It is naturally a plain looking material, but by dividing up the exterior into piers and panels, with a plinth, frieze, cornice and blocking course, it can be made quite sightly. It requires no periodical painting, is not affected by the weather, and has not been in existence long

enough to enable the duration of its natural life to be determined. The greatest objection I have heard against it is that it costs more to pull down than it does to put up. The usual construction inside consists of pillars, 15 to 20 ft. centre to centre, with main beams across them in one direction, and cross beams 5 to 6 ft. centres in the other direction, and a continuous floor slab, $4\frac{1}{2}$ to 6 ins. thick, with angle brackets on the pillars, and fillets at all the junctions of beams and slabs. The concrete is usually a mixture of 1 cement, 2 sand and 4 larger aggregate, and is allowed to be stressed to 600 lbs. per square inch compression under working conditions, the steel at the same time being allowed 16,000 lbs. per square inch tension.

The larger aggregate may be of practically any size for mass concrete, but for reinforced concrete it should vary in size from $\frac{1}{4}$ inch to a maximum of $\frac{3}{4}$ inch, and the sand may vary between 150 mesh and $\frac{1}{4}$ inch. The cement should be slow setting, and always comply with the British Standard specification. Hard broken brick is suitable for use, except Fletton bricks, which contain sulphur and may cause expansion and disruption.

I will not worry you with the orthodox formulae for reinforced concrete, they are rather complex and very troublesome to use. I will give you instead some approximate rules of my own, which will give you a fair idea of the dimensions to adopt. The maximum of economy is obtained when the materials are stressed up to their working limit under full load, the reinforcement then being 0.675 per cent. It will be near enough if you take the area of steel in section as 1 per cent. of the area of concrete above the centre line of the steel, or what is called the "effective depth."

Then $W = \frac{0.6 b d^2}{L}$, W being safe load in

cwts. distributed along the beam or strip of floor slab, b breadth in inches, d effective depth in inches, L clear span in feet. To find the external load that can be put on it, or the super-imposed load, the weight of beam or slab should be deducted. Approximately, the effective depth in inches of a slab or beam

with 1 per cent. reinforcement = $\sqrt{\frac{B}{1296}}$

where B = bending moment in lb.-ins. per foot width of slab or beam. When the floor slab is continuous over several spans, the outer bay should be about three-fourths the width of the others for equal thickness, and if proper provision is made for the reversal of stress over the supports the safe load per foot super may be taken as $1\frac{1}{2}$ times what it would be on a portion of floor taken as a single beam supported at the ends.

I am afraid this paper is rather more scrappy and conversational than you usually have, but in the course of my practice so many failures are submitted for my consideration that perhaps I am liable to give that aspect of the subject undue prominence. At any rate, I trust that I have given you some matter for reflection, and that the hour occupied will not be wholly lost time.

I have now some lantern slides to show you that I will explain as they appear: for the loan of some of them I have to thank the Concrete Institute, Dr. Faber, Mr. E. P. Wells and Mr. H. K. Dyson.

(The paper was illustrated by a large number of lantern slides, giving examples of construction and of failures.)

Only a fraction of the £20,000 required for the proposed Somerset war memorial, to be erected on the highest point of the Mendips, has been subscribed, and the project has been abandoned.

The St. Pancras medical officer of health has reported that fifteen areas in Somers Town cannot be satisfactorily dealt with otherwise than by schemes of reconstruction. The areas include 455 houses, with 2,625 rooms, occupied by about 4,222 persons.

At Fladbury, near Evesham, where 123 men out of a total population of about 939 served in the war, a memorial cross in white Portland stone erected on the village green, at a cost of £200, raised by subscription, was unveiled last Saturday by Commander Eyres Monsell, M.P., in the presence of a large number of villagers.

NEW ARRANGEMENTS WITH THE BUILDING TRADE.

Special attention is drawn in *Housing* to the arrangements which have been concluded with representatives of the building trade.

A.—Agreed Price Contract.—An agreement has now been reached with the Joint Industrial Council of Building Trades with regard to an arrangement by which a fair price should be fixed for the erection of houses, and Dr. Addison wishes the matter to be taken into consideration at once by the council of every large town. The principal feature of the agreement is that representatives of the local authority, the local federated builders, and the Housing Commissioner meet together and arrive, where possible, at an agreed price at which houses are to be erected; and that then the number of houses to be built under the arrangement is distributed by the local association of the Federation to builders in proportion to their resources.

In any agreement made in accordance with the new arrangement it should always be provided that a definite number of houses shall be erected within a specified time.

Nothing in the agreement prevents the local authority from arranging for the erection of houses of special forms of construction, such as concrete, steel framing, and other forms approved by the Ministry, and Dr. Addison suggests that councils should also consider immediately the possibility of taking steps in this direction.

Dr. Addison will be glad to arrange for a representative of the Ministry to be present at any meeting which is arranged between representatives of the local authority and the federated builders.

B.—Purchase of Working-Class Houses under Section 12 (3) of the Act of 1919.—Under Section 12 (3) of the Act of 1919 local authorities are empowered to contract for the purchase by, or leave to, them of houses suitable for the working classes, whether built at the date of the contract or intended to be built thereafter.

The arrangement is, briefly, that the builder holding partially developed land shall enter into an undertaking with the local authority for the erection of houses to be bought, with the land, by the local authority.

The terms of purchase, the lay-out, and house plans will be subject to the approval of the Ministry. To secure the utmost despatch, it is suggested that the arrangements in each case be settled at a conference between the builder, representatives of the local authority, and the Housing Commissioner or other representatives of the Ministry. Particulars of the detailed proposals should be circulated to the various parties previously, and, wherever possible, the matter should be finally settled at the conference.

In order to bring the matter to the notice of local house builders, it will be well in the larger towns to call a special conference for this purpose.

It will be open to the builder to adopt plans prepared by the local authority or to submit complete plans of his own, or to undertake to erect houses of a type similar to those which he has already built.

To facilitate arrangements of the kind proposed, a model form of contract to suit these cases is being prepared.

An alphabetical list is given of the places where 412 public meetings and conferences have already been held to disseminate information on the Government's housing proposals. The list is published for reference and to prevent "overlapping."

For the information of those branches of the thirty-three voluntary societies who offered to co-operate with the Ministry in organising meetings, and of others who have not yet been able to secure a speaker on this subject, it is notified that forms can be obtained from the Housing Publicity Section of the Ministry, on completion of which the Ministry are willing to arrange for the supply of a voluntary expert speaker. In order to warrant the sending of a speaker, it is essential to have meetings that are well attended, or that are directed towards informing people of particular influence in the matter, and are thrown open to the public.

Our Illustrations.

CARTOONS OF STAINED-GLASS WINDOWS, ST. SAVIOUR'S CHURCH, DARTMOUTH.

This double-page, reproduced from the artist's full-size cartoons, shows two lights from the series of fine stained-glass windows in St. Saviour's Church, Dartmouth, executed from the designs and drawings by the late H. W. Lonsdale. The subject "Christ set in the midst of little children" forms the central compartment, the woman to the left in the side light kneeling in adoration, the grouping enclosed by the Apostles standing behind. Other specimens of Mr. Lonsdale's designs will be found in the *Building News* for October 31, November 6, 14, and 28.

SELECTED DESIGN, ROYAL LEAMINGTON SPA WAR MEMORIAL.

This design is intended to be expressive of the spirit of self-sacrifice by which victory is won. The roll of honour is to be in bronze on the side wings. The central feature, also in bronze, may be described as symbolic of progress. Success is suggested by fruit and flowers, and the crown of victory. The structure is chiefly in Portland stone. Care is taken by channels to collect the rain from all bronze work, and discharge the water by internal pipes so as to prevent the masonry from being stained. The steps will be in granite with York stone-paving. The memorial is to be placed in a central line with Euston Place, and in this way a good view of the monument is obtained from the gardens. The principal trees on the site will be retained. The existing light standards in the roadway provide ample lighting. It is suggested that the buildings to Euston Place should be painted in one colour to form a suitable background, and opposite to the memorial is intended to improve the entrances to the gardens. The estimated cost is rather more than £5,000. Mr. H. V. Ashley, F.R.I.B.A., was the assessor in the recent competition. Prizes of £100, £50, and £20 were awarded. Mr. T. Llewelyn Daniel, A.R.I.B.A., and Raymond E. Arnold, A.R.I.B.A., are the joint architects of the chosen scheme now illustrated.

WOLVERHAMPTON: PAIR OF COTTAGES, GREEN LANE HOUSING SCHEME.

We give two photographs of the first pair of dwellings, Green Lane, opened in November last. The houses are semi-detached, type "B," containing on the ground floor, parlour, living-room, scullery, and w.c., coals, larder, etc. On the first floor there are three bedrooms and a bathroom. The scullery contains, in addition to sink and gas-cooker, a gas-heated boiler. The plans, section, and elevations here given show the arrangements. Servall ranges of the double-side type are fitted, the oven and hot-water system of which can be heated from either the scullery or living-room fire. The hot and cold water supply is provided to the bath, lavatory, sink, and washing boiler. Electric lighting is fitted throughout. The electricity supply has no meter, but is supplied at a fixed scale, charged through a current limiter, which will pass an ample supply to illuminate the whole of the house, but is unlimited as to time. All the external walls are built of local brick, hollow, with 2-in. cavity. The roof is covered with local tiles. The windows are of steel casements set in reinforced concrete frames. The accepted contract for these houses amounts to £789 per house, exclusive of

drainage and electric lighting, and these houses form part of a contract for 48, 40 of which are type A and 8 type B, forming the Green Lane portion of the Wolverhampton Corporation Scheme. The plans were made by the borough engineer, Mr. George Green, M.Inst.C.E.

HOTEL AT REPULSE BAY, HONG KONG.

This hotel, which is an adjunct of the Hong Kong Hotel, is now in process of erection. It is charmingly situated on the hillside overlooking one of the bays on the south side of the island, with a beautiful view over the Pacific. There is a fine bathing beach just opposite to the hotel grounds; and the Deep Water Bay golf links are in close proximity. The primal walling is of Canton brick rendered externally with rough-cast. The work is being carried out by Chinese contractors according to the designs and under the supervision of Messrs. Denison, Ram, and Gibbs, architects, of Hong Kong.

PROPOSED PALACE AT DHARAKOTA, SOUTH MADRAS.

This building has been delayed owing to war conditions. The new building is to occupy the site of the existing Palace, which stands on a rocky plateau about 600 ft. above the plains, and is to be built in the local sandstone. English sanitary fittings and electric light are to be provided. The cost is estimated at two lakhs of rupees. The architect is Mr. Stephen Wilkinson, of Calcutta, and 32, Charing Cross, Whitehall, London.

HEALTH MINISTRY'S HOUSING REPORT.

New schemes submitted to the Ministry during the week ended December 6 numbered 190. The total number of schemes submitted by local authorities and public utility societies is now 7,469, comprising about 56,300 acres. The schemes approved now number 2,882 comprising about 27,850 acres.

Sixty-five lay-out schemes were submitted and 64 approved during the week, making the total number of lay-outs submitted 1,764, and the number approved 1,038.

House plans representing 3,044 houses were submitted during the week, and plans for 2,825 houses approved. The total number of houses represented in the plans submitted is 70,275, and in the plans approved 55,127. Tenders for 15,967 houses have been submitted, and approval given to tenders for 12,786.

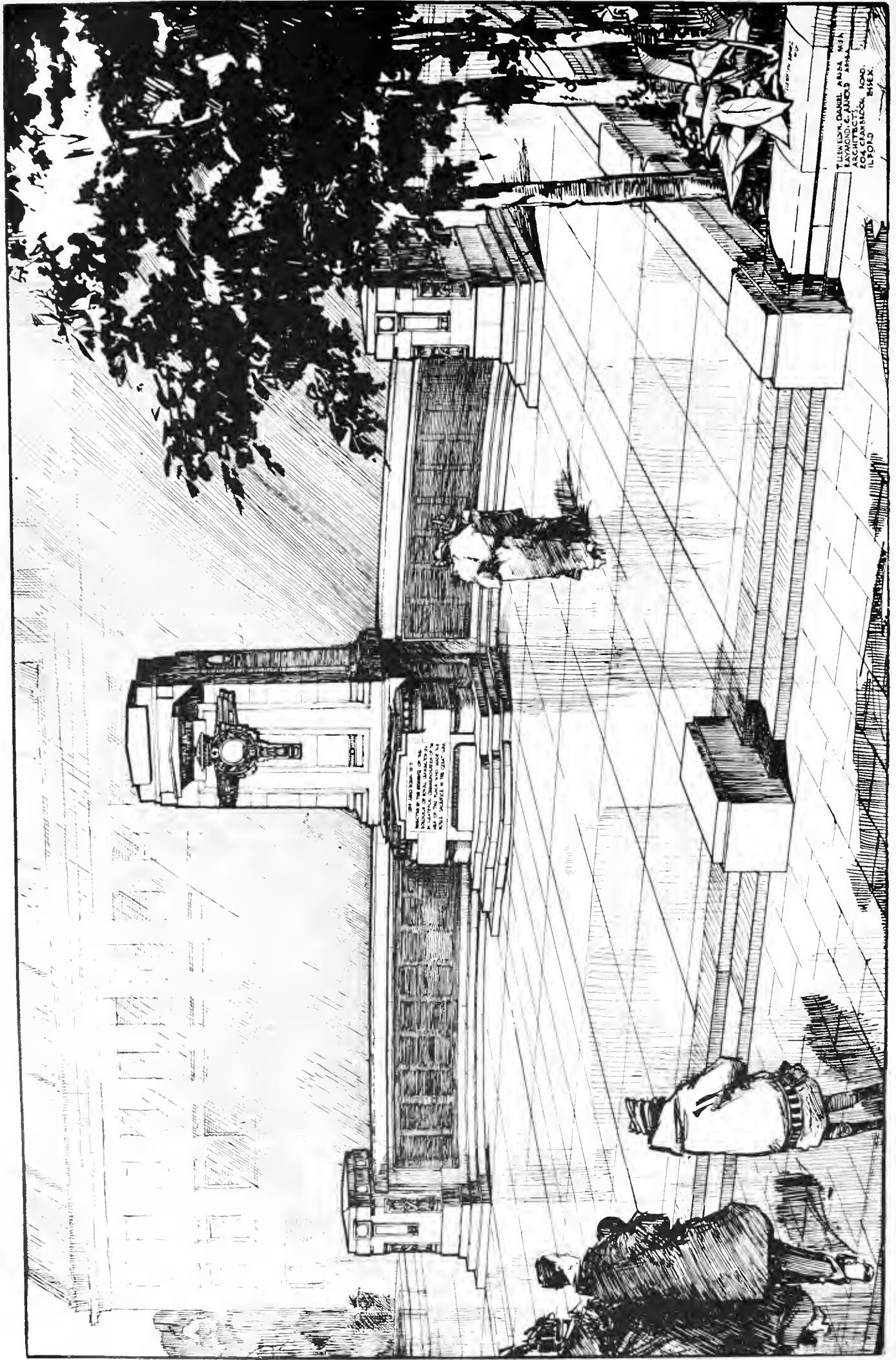
During the week, 19 local authorities made application for temporary war-service buildings to serve for housing accommodation. The total number of local authorities who have now made such application is 91.

The Valuation Department of the Inland Revenue, acting on behalf of the local authorities had by the end of November successfully completed negotiations for the purchase of land in 1,553 cases. The area of the land is 8,792 acres. The amount provisionally agreed by the local authorities to be paid or the price asked was £2,193,851, and the amount finally agreed to be paid £1,625,455, a reduction of £568,396, or 25.9 per cent. The average amount saved per acre was £64, the amount asked or provisionally agreed on being £249 per acre, and the sum finally agreed on £185.

Mr. Fred Grant, a surveyor employed by the Lancashire County Council, was taken suddenly ill while returning home, and died before medical aid could be summoned. He had recently suffered from influenza.

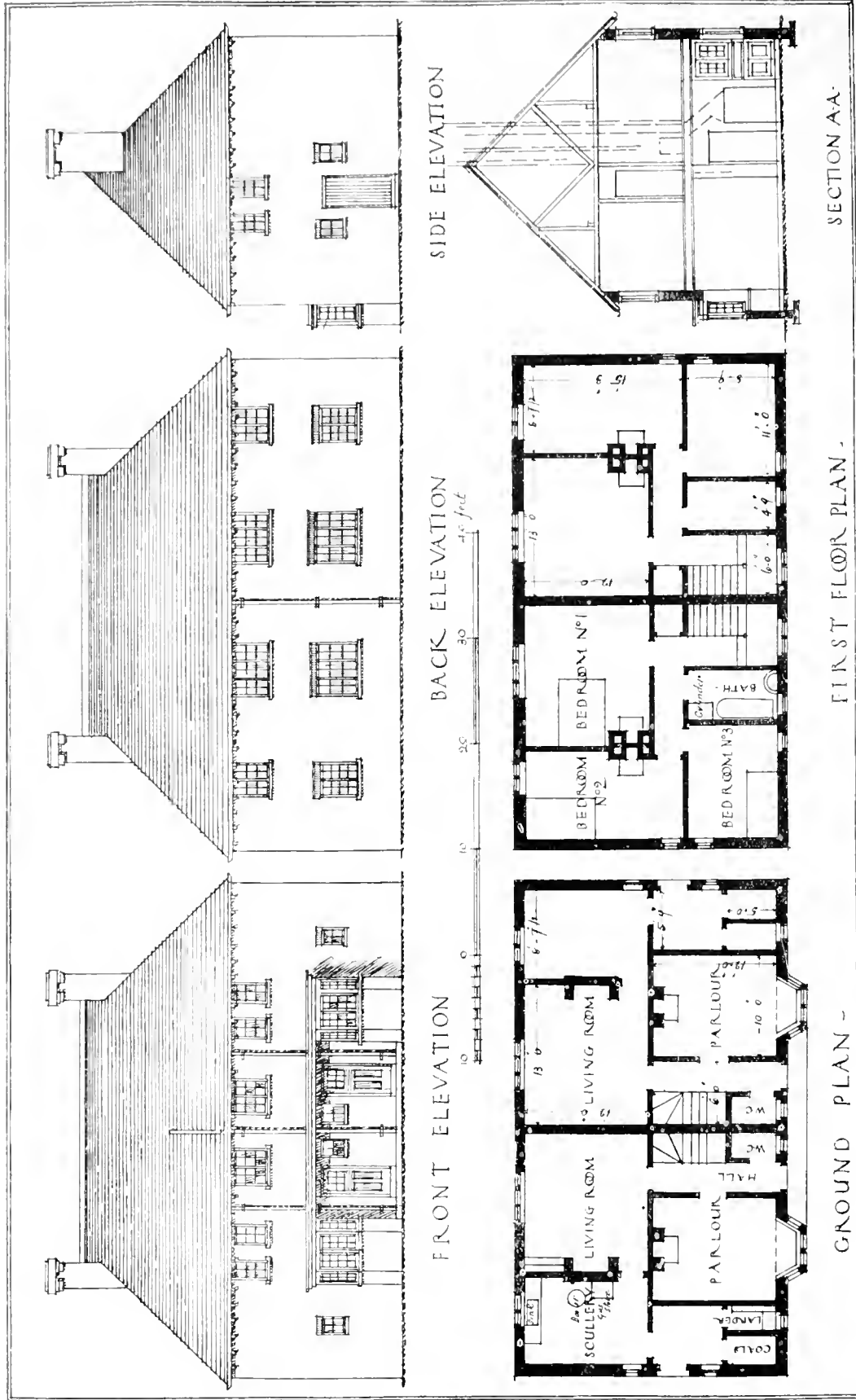
The Trustees of the London Museum have appointed Mr. F. A. Harman Oates as Keeper, Secretary, and Accounting Officer in the place of the late Sir Gay Francis Laking, and Colonel the Hon. M. V. Brett as Deputy Keeper and Librarian. Mr. Oates has been connected with the London Museum since it was opened, and was assistant secretary under the late Keeper.





SELECTED DESIGN, ROYAL LEAMINGTON SPA WAR MEMORIAL, EUSTON PLACE, LEAMINGTON.

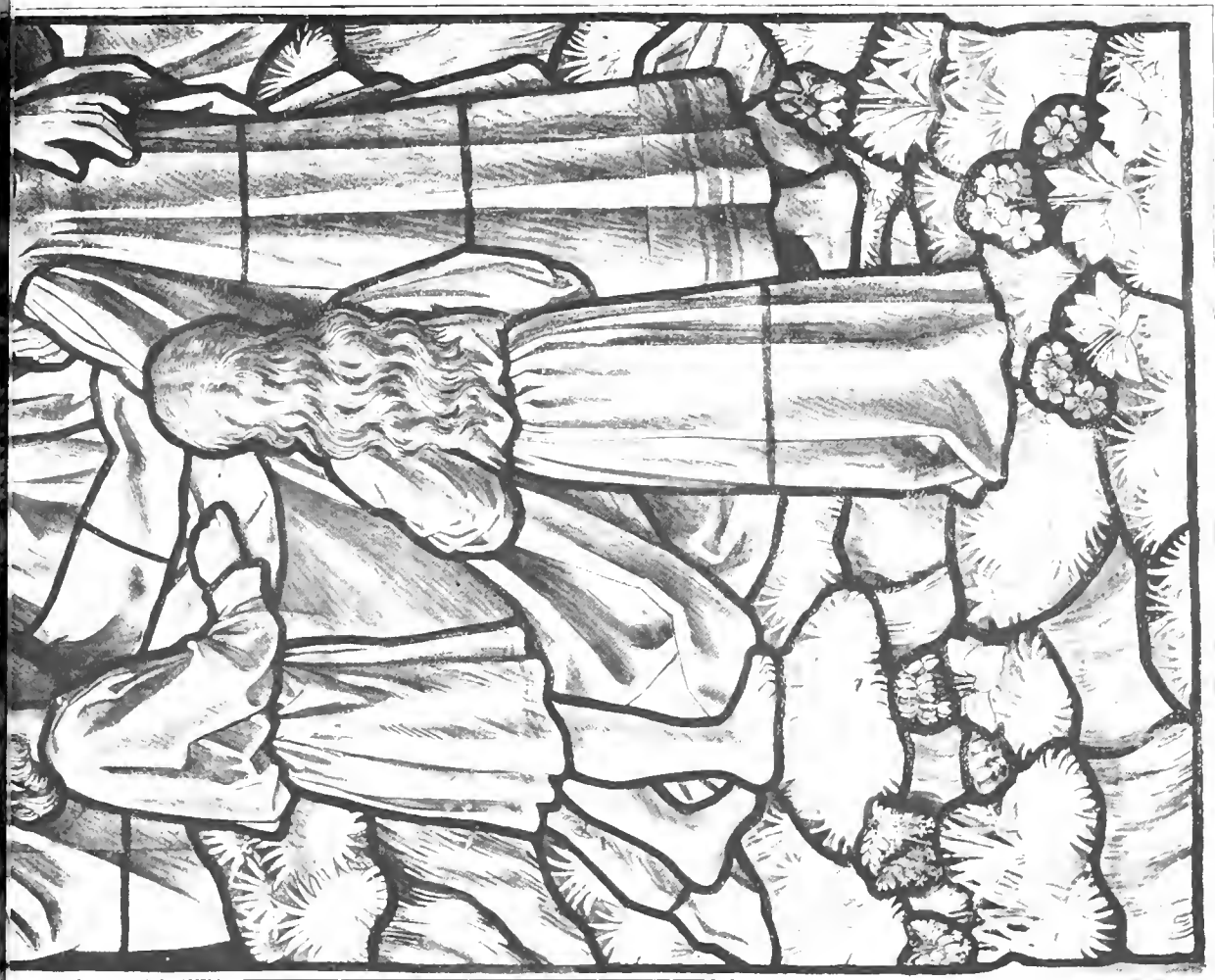
MESSRS. T. LLEWELLYN DANIEL, A.R.I.B.A., and RAYMOND E. ARNOLD, A.R.I.B.A., Joint Architects.



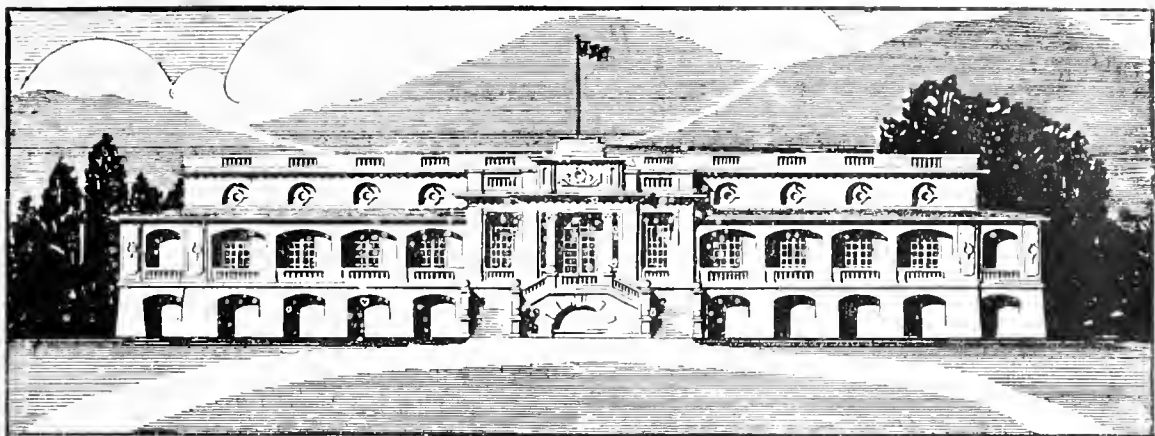
PAIR OF COTTAGES, GREEN LANE, WOLVERHAMPTON HOUSING SCHEME.
 MR. GEORGE GREEN, M.Inst.C.E., Borough Engineer.

THE BUILDING NEWS, DECEMBER 19, 1919.

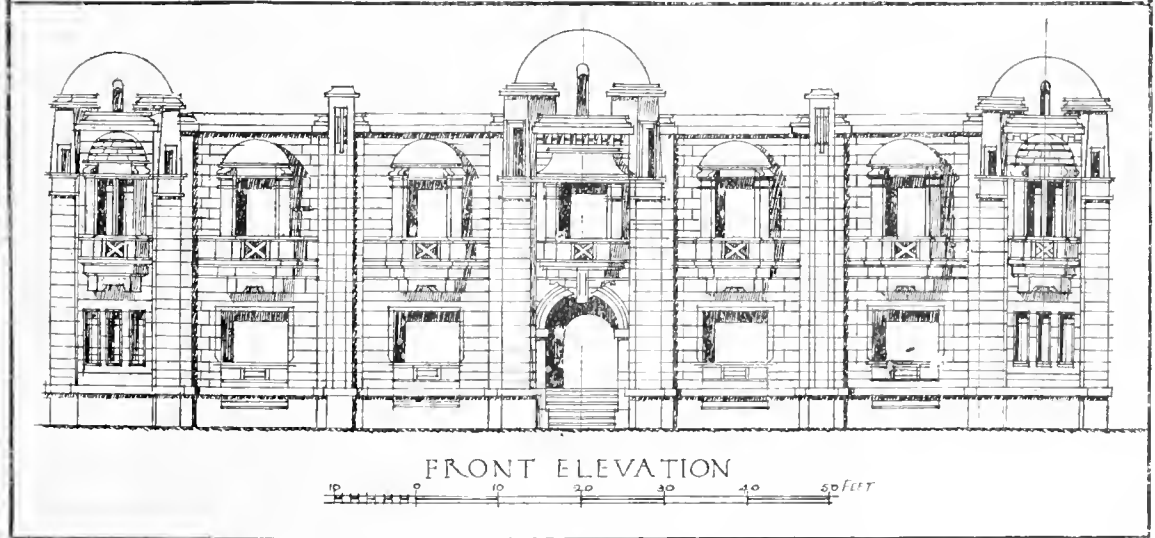
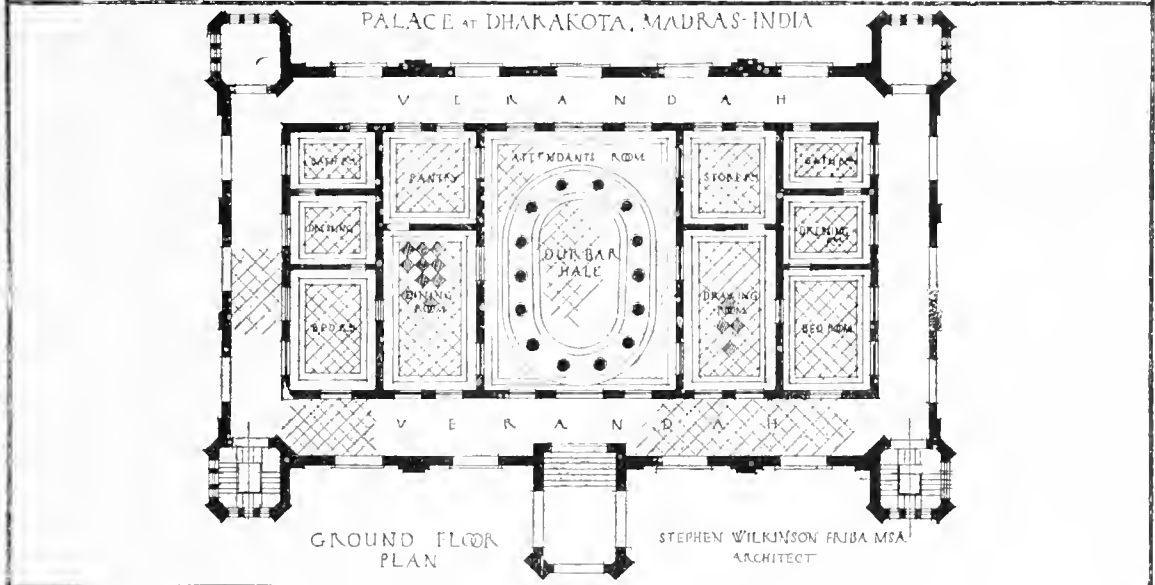




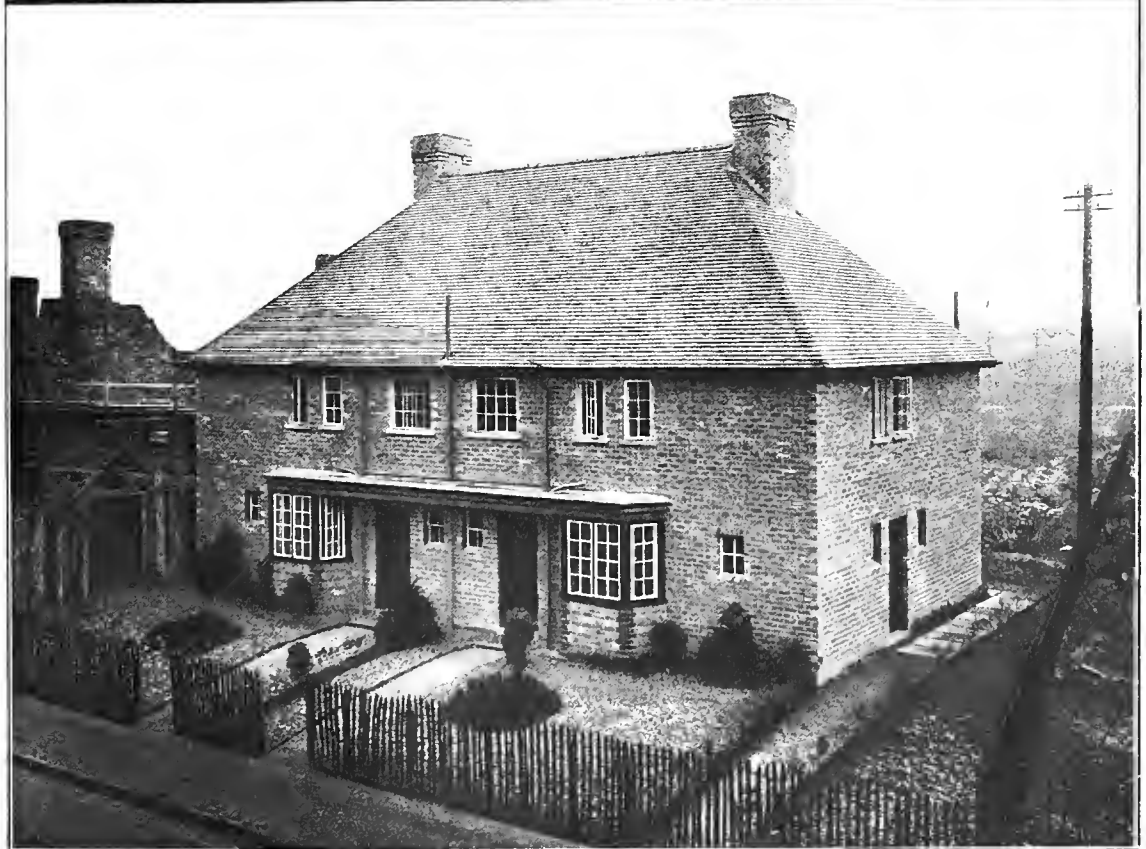
CARTOONS OF STAINED GLASS WINDOWS, DARTMOUTH, ST. SAVIOURS CHURCH,
Designed and Drawn by the late H. W. LANSBURY.



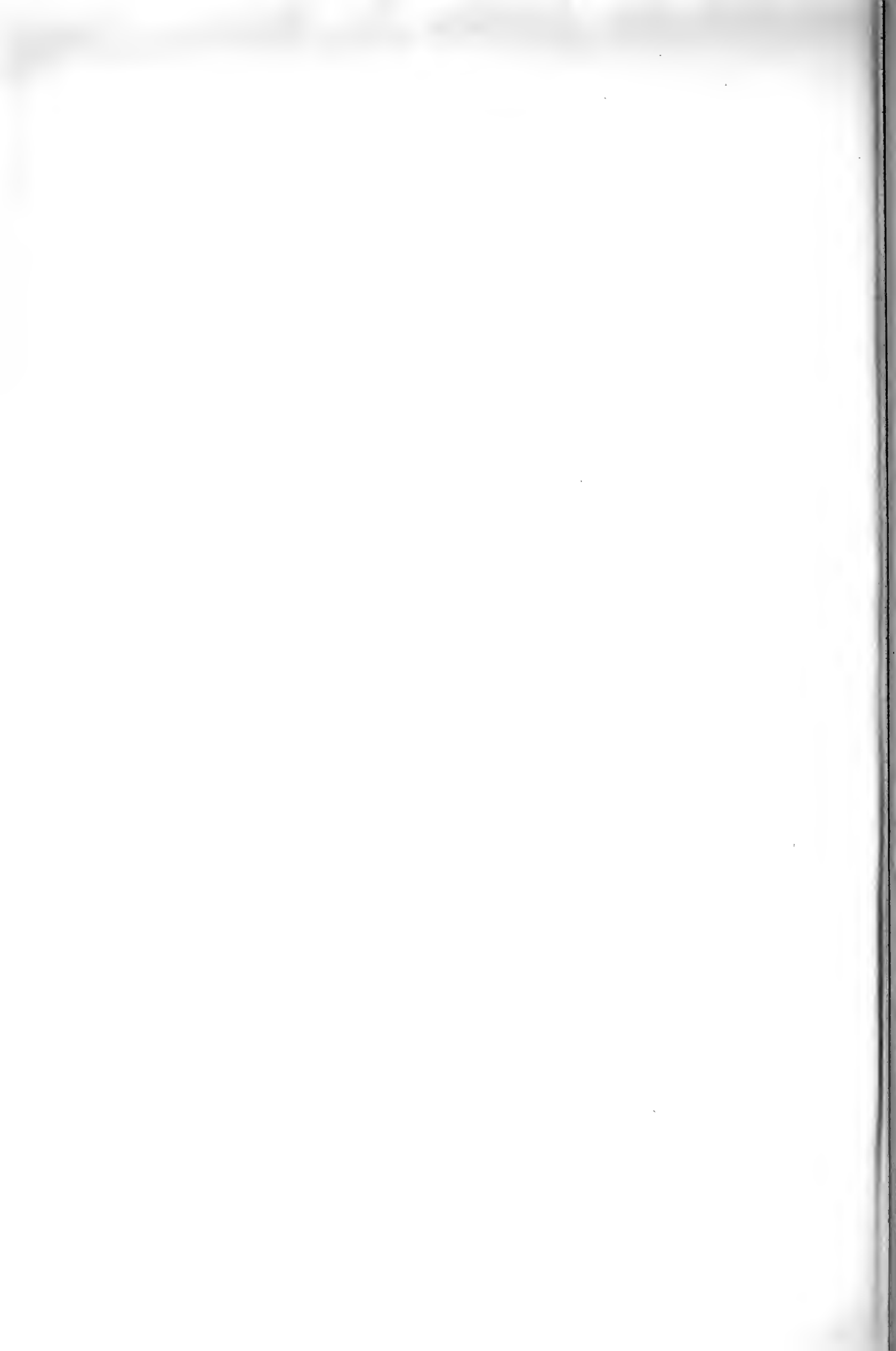
NEW HOTEL AT REPULSE BAY HONGKONG
MRS. DENNISON RAM & GIBBS ARCHITECTS



PROPOSED PALACE AT DHARAKOTA, INDIA.
Mr. STEPHEN WILKINSON, Architect.



PAIR OF COTTAGES, GREEN LANE, WOLVERHAMPTON.
MR. GEORGE GLEN, M.Inst.C.E., Borough Engineer.



"PRECISE LEVELLING."*

By MAJOR ERNST OLAF HENRICI, R.E.,
Assoc. Inst. C.E.

When the heights of the original bench marks of the Ordnance Survey were first determined, it was considered that the work done would stand good for an indefinite period, and that all that would be required on revision would be to replace such bench marks as had disappeared, except in mining districts where it was known that subsidences were liable to occur. Experience has shown, however, that many of the marks have altered their heights to a greater or less extent, either from subsidence of the structures on which they had been cut, or by actual displacement. Also a considerable number of marks have disappeared. It is consequently becoming increasingly difficult to distribute the inevitable errors of the secondary levelling, and to prevent their accumulation.

It was decided in 1911 to undertake the levelling of an entirely new network, to form the basis for the heights shown on the maps, and at the same time to study more thoroughly the height of mean sea level.

There seems to have been very little advance in the practice of spirit levelling in this country for many years, and in consequence a study of progress made in other countries was carried out, and levels of various patterns were experimented with before the methods to be adopted were finally decided on.

The methods and instruments decided on are described in the paper, and also the patterns of bench marks used.

The new lines are laid out so that it is possible to erect at intervals of about twenty-five miles special "fundamental" bench marks. These marks are confined to sites where the presence of rock within reasonable distance from the surface makes it possible for the mark to be either fixed in the living rock, or in concrete founded on the rock. Sites are avoided where the marks are likely to be disturbed by mining or quarrying. These marks have three reference points, one consisting of a metal bolt let into the top of a granite pillar for general use, and two lower marks which are buried, and are for the use of the survey only, for the purpose of checking the height of the upper mark in time to come. Intermediate marks are of a special form of gunmetal plate let into the surface of walls.

The "probable error" of the difference in height between any two consecutive "fundamental" marks is about 0.01 foot—i.e., it is an even chance whether the actual error is greater or less than this amount, and it is very improbable that the error will be as much as three times this amount.

The intermediate marks cannot be relied on to hold their height to the same extent as the fundamental marks, as it is impossible to avoid passing over ground that is liable to subsidence due to mining operations or to movements such as are caused by the varying moisture content of the soil in alluvial or fen districts, or to avoid the possibility of direct subsidence of the structures on which the marks are placed.

The completion of the work has been delayed by the war, but pending the publication of the results, information required by engineers can be obtained, if available, from the Director-General of the Ordnance Survey, Southampton.

The paper contains an investigation into the causes of errors in levelling operations, an account of the methods adopted to minimise them, and an estimate of their magnitudes. Tables are given showing how far the actual discrepancies obtained agree with those to be expected from the estimated effect of the various individual errors considered. The chief conclusions arrived at are:—(1) The design of the standard levelling instruments as used in this country for many years can be considerably improved, not only for precise work, but for all work. The instrument used in the work, discussed in the paper, is one designed by Dr. Wild (formerly of the Swiss survey), and made by Messrs. Zeiss, of Jena. The author is glad to say that firms in this country are now producing instruments em-

bodiment of the good points of the Zeiss instrument; (2) The chief cause of error in the levelling as now carried out is due to the movements of the supports of the levelling staffs during the time they are "holding the height" between the forward and back readings to the staff.

The paper was in preparation, and largely written, when the outbreak of war severed the author's connection with the Ordnance Survey. The paper was completed in 1917, and the results up to that date were kindly placed at the author's disposal by the Director-General. The author has no knowledge of the later work.

GOOD AND EVIL OF WINDOW GLASS.

Window glass is a recent invention, a mere matter of yesterday as we count the life of the race, and it has its bad as well as good points. In fact, says the *American Architect*, there is no doubt that it is affecting our health and our industrial and social conditions very powerfully. So at least says Dr. R. E. Danforth of Rutgers College, in an article on "Window Glass as a Factor in Human Evolution," contributed to *The Scientific Monthly*. Dr. Danforth points out this action, whatever it may be, is recent. Glass is ancient, but not window glass; and the general use of glass sheets in the windows of ordinary dwellings is a thing of comparatively recent times—probably a couple of centuries. We must realise the benefits and injuries of glazed windows if we are to retain the good while mitigating the evil, as this writer advises us. His article is directed to this end. He says in substance:—

"That window glass is a factor of prime importance in the evolution of man has not been sufficiently elucidated. Not that glass has had much to do with shaping his body and brain of to-day—it has not had time to do that—but that the thoughts filling his mind, that the greater part of his activities, and that the bodies and brains of generations to come are and will be greatly influenced by window glass; and that in it are serious dangers as well as boons. The thought is astonishing, yet simple of proof, and clear as the light which comes through the windows in question.

"Before window glass became a common possession of the people there came into homes and shops the air and the temperature of outdoors through the openings which admitted the light of day. The air was beneficial, but the temperature it brought with it not always so. When the outdoor temperature was not too low and the outdoor air not in too great activity, life and industries within could go merrily and well, but let either the air or its temperature be unfavourable, and at once discomfort and a cessation of certain activities ensued.

"Think of the demoralising effect of such uncertainty upon industry. Modern inventions could not have come in such marvellous profusion before the day of this one invention of a simple device admitting daylight and excluding to a great extent the outer temperature.

"Even to-day if window glass should become one of the 'lost arts,' a large number of other inventions would at once cease to be useful or be forgotten through neglect, even despite the fact that artificial illumination has made remarkable strides.

"But someone may object: was not glass manufactured and distributed by the ancient Phoenicians? Yes, and probably before these by the Egyptians. How then can we attribute our very recent and radical changes to window glass? It is indeed surprising to think how new is the general use of glass in windows when the substance had been known so long and used for vases and gems and, now and then, in some sort of window. The common people, however, had no such luxury in their homes and shops."

Window glass in Roman times was cast. Dr. Danforth tells us. The art of casting glass seems to have been forgotten until 1688. Yet window glass was even then the prize of kings and nobility, and there was only a scant supply. In the time of Elizabeth glass windows were so rare and costly

that some noble when he left his city residence had the glass windows carefully removed. In the time of Charles II., glass was not used in all of the rooms of the king's palace. He goes on:—

"It seems safe to assume that while many individuals may have had scant supplies of window glass by the middle of the seventeenth century or earlier, the commodity could hardly have been common before the eighteenth century, hence its effect upon human customs, industries and mode of life could not have begun to operate appreciably before that time. The great change in home life and the change in industrial life and in the industries themselves could not begin until an abundance of cheap glass filled all homes with a flood of daylight, and all shops and offices and factories as well, keeping in the artificial heat at the same time. From that time the outdoor life rapidly lost its people, while the world of indoors gained devotees, willing or unwillingly, by thousands of thousands. A host of new industries sprang into being in the wake of window glass, and these begat other industries, scientific inventions and discoveries with magic rapidity. Large factories were made possible, big businesses began, and the physical conditions of home life were completely changed. The air which all breathed, in home and shop and office, became at once far less pure, its oxygen was consumed and it became flecked with fine dust, and the pristine rigours of a temperate climate, with all that they had meant for the vigour of the northern peoples, were commuted to conditions of tropical evenness of temperature with what debilitation such brings and without the constant renewal of air which might be had in the tropics. Although this change came but yesterday, already a marked increase in physical debility in our most 'civilised' populations is a matter of common comment and concern.

"With window glass the habits of life and livelihood are completely changed, habits of thought are revolutionised and the field and scope of thought changed. The whole environment is changed for the species, including temperature, humidity, material environment, composition of air breathed, visual and mental horizons, and a change in the relative adjustments of human beings to disease germs. Such radical changes both within and without the human organism are bound to produce physiological changes in the individuals. They also set in motion new factors in the evolution of the race.

"With window glass man leaves his outdoor or semi-outdoor activity and becomes a modern industrial worker or office server. With a sturdy foundation of outdoor health behind him he may not notice ill effects of degenerating muscles or dust-clogged respiratory tracts, and he may pass on to his offspring for two or three generations a vigorous heredity. The heritage of the ages is not lost over night, yet already we note inroads into the health and vigour of the people.

"How then is window glass a prime factor in human evolution? First, it changes man's environment and changes his field of thought. Second, it alters the temperature and humidity of his environment. Third, it gives him air of a different quality and composition to breathe. Fourth, it compels him to inhale fine dust constantly. Fifth, it removes outdoor activity from all women and most men in 'up-to-date' communities. Sixth, the germ content of the air in confined buildings is greater than normal, especially so in times when colds and other infectious diseases abound. The more frequent illnesses result in impaired health and reduced vigour. The inferior air also reduces vitality. The inhaled dust clogs minute bronchioles and alveoli of the lungs, causing thousands of cells to toil constantly to ingest foreign and insoluble particles. The muscular degeneration consequent to the changed manner of life will make its permanent change in the race of to-morrow; so will the reduced vitality resulting from the causes just mentioned. Great care should be given to the subject of window glass, that we may see to it that we reap the blessings it brings with it and avoid the bane."

* Abstract of a paper read at the ordinary meeting of the Institution of Civil Engineers, on Tuesday, December 16, 1919.

Building Intelligence.

CO-OPERATIVE BUILDING IN BIRMINGHAM.—On Monday last the first bricks were laid at Priory Road, Yardley Wood, Birmingham, of twelve houses which "Co-operative Builders (Limited)," an industrial society formed in the city, have undertaken to erect for the Birmingham Corporation. These houses will be of the Ministry of Health's standard type (G.H.4), two blocks of four each and two pairs, each house having a parlour and living room and three bedrooms. Approximately they will cost £10,000. The society has undertaken the contract as ordinary builders, obtaining supplies of cement, bricks, and slates from the Ministry of Health, and buying the rest of the materials in the local open market. "Co-operative Builders" have a membership of nearly four hundred, the majority of whom are building trade operatives. Professional men, such as surveyors, architects, sanitary engineers, civil engineers, and electrical engineers, are also among the members. The capital is held in £1 shares (transferable), limited to 200 per member, and interest is restricted to 6 per cent. per annum. There is a management committee of nine members. These include Councillor W. W. Saunders, district delegate of the Amalgamated Carpenters and Joiners; Mr. E. E. Edwards, a working joiner; Mr. A. Turner and Mr. A. Milner, bricklayers; Mr. W. W. Potts, a builder's foreman and clerk of works; Mr. C. B. Trafford, a bricklayer's foreman; Mr. J. R. Palmer, a wood machinist; Mr. W. E. Gorman, a master painter; and Mr. R. Wylds, a small master builder. The secretaries are Mr. J. Watson, a builder's merchant's clerk, and Mr. H. Taylor, a bricklayer, who was the secretary of the original Building Trades Operatives' Housing Society.

OBITUARY.

Sir John Jackson, M.P. for Devonport, last Sunday while staying at Godalming was taken suddenly ill, and died without regaining consciousness. He was 68 years of age. Sir John Jackson was the head of the firm of contractors bearing his name, and came much into prominence during the war in connection with Army hut contracts, on which a Royal Commission was eventually appointed, and over which there was much controversy in Parliament. He laid the foundations of the Tower Bridge, and one of his greatest achievements was the dockyard extension at Keyham, which took ten years and cost 4½ millions. He invented a great scheme for the salvation by irrigation of the desert regions of Mesopotamia, his last big engineering feat being carried out near the reputed site of the Garden of Eden. He married, in 1876, a daughter of the late George Myers, of London, and had five daughters. The funeral was yesterday, from 53, Belgrave Square to St. Peter's, Eaton Square, at 11 o'clock.

STATUES, MEMORIALS, etc.

MEMORIAL TO LIEUTENANT THE HON. P. J. G. F. HOWARD, WELSH GUARDS.—In May, 1918, Lord Howard of Glossop lost his younger son, who sacrificed his life in France. Desirous of perpetuating his memory, his Lordship has erected a monument at Dorlin, the Scottish estate in Inverness-shire, where a short time previously his son's honeymoon had been spent. The spot chosen is a small natural eminence near Coul, on the northern shore of Loch Shiel, a freshwater loch 20 miles long. The monument has the shape of a cross, severe in style, and bearing a sword, the emblem of a soldier, on one face. The height of the cross is about 15 feet; it rests on a die 5 foot square, weighing one and a half ton. The base is formed of three steps, each a foot deep, the bottom one being 15 foot square. The top of the cross stands 23 feet 6 inches above the ground. The die bears on one face the inscription in honour of his son, Lieutenant the Honourable P. J. G. F. Howard, 1919. The Howard coat of arms is quartered on the third side. The fourth panel is at present blank, but shortly will hold, in medallion form, a bronze bust of Lord Howard's son. The stone was carved to the design of Messrs. Douglas, Minshall, and Musprat, of Chester.

Our Office Table.

We are glad to receive once again the last issued copy of our always welcome contemporary *The American Architect*, dated October 1. Publication is now resumed after a strike called by the New York local unions in the printing trades. Until further notice the paper will be issued from our contemporary's branch office in St. Louis, Mo. Back numbers will be issued as rapidly as possible. The editorial and business offices are continued as usual at 243, West Thirty-Ninth Street, New York City.

It is stated that the London mansion for which Mr. J. M. Bowman, the "hotel king" of America, is negotiating, as reported in the *Daily Chronicle* of Tuesday week, is Devonshire House, Piccadilly, and that it is his intention to erect a huge hotel on the site. Messrs. Holland, Hannen and Cubitts, the building contractors, are the present owners of Devonshire House. They bought it from the Duke of Devonshire at a price, it is stated, of £750,000. It is believed that Mr. Bowman's offer is round about £1,000,000. There is little doubt that, should Mr. Bowman's offer be accepted, a luxurious hotel of many storeys and containing many novel features will be built on the site, but it was pointed out to a *Daily Chronicle* representative on Wednesday that Mr. Bowman is not the only man at present negotiating for the purchase of the site.

Mr. Peter Eyfe, Director of Housing for Glasgow, addressed the members of the Glasgow City Business Club last week on the housing question. After reviewing the various Housing Acts from the early 'fifties of last century, he said we were now at the close of 1919, and thousands of our working folks were homeless. He attributed this serious lack of housing to the fact that Mr. Lloyd George's People's Budget of 1910 killed the building trade by the taxation it put on builders and landowners. The various local authorities throughout the country were not at fault, but the red-tape methods of the Government and the Board of Health, with their unnecessary circumlocution and delay, were responsible for the present critical position. At present Glasgow was in need of 57,000 houses, and it was difficult to see how more than 6,000 could be built per year for the next three years.

According to Mr. Hilaire Belloc, London is gradually losing its importance as the commercial centre of the world's trade. Addressing the general meeting of the London Society at the Royal Society of Arts last Friday, Mr. Belloc pointed out that if London did not exist its site would certainly not be chosen on which to build the principal port under the present economic conditions. The topographical reasons for the existence of London, which had been declining for several years past, would undoubtedly continue to decline. From a military point of view it was important that a broad tunnel should be built under the river mouth, which would enable troops to be moved from, say, East Anglia to Kent without having to lose time by going through the City. It was the obstacle of the river which had caused London, alone of the great cities of Europe, to be exempt from war for the last nine centuries.

The new Feeney Galleries of the Birmingham Art Gallery were opened last Friday. The new extension consists of six additional galleries. Two have been selected for a Museum of Casts numbering some 400 specimens, which cost over £3,000, and provide a complete history of Greek and Roman sculpture from its earliest days. The collection has been selected and arranged by Professor Ernest A. Gardner, of University College, London. Two galleries are for the present allotted to the exhibition of photographic reproductions of sculpture and Greek vases. A third has been hung with a complete series of drawings and studies by Charles Keen, Sir John Tenniel, and others, together with a display of mezzotint engravings by Sir Frank Short. A collection of Russian drawings, studies by Swan, J. F. Lewis, Muller, and others, occupy the fourth; the

fifth is filled by the Palmer Phillips bequest of pictures; and the sixth is devoted to a collection of early English water-colours.

At a Conference of Local Authorities of the Northern Home Counties area held at Bedford last week a resolution was passed expressing the opinion that no subsidies should be given for any houses below the standards laid down in the manual issued by the Ministry of Health for the guidance of local authorities. The Conference further urged that subsidies should not be given for erection in the area of cottage flats, and appealed to M.P.'s to insert a clause in the Housing Bill, in the report stage, providing that, subject to conditions to secure avoidance of delays, the final decision as to the standards for which it is proposed that £15,000,000 of public money is to be expended shall be determined by Regulations to be submitted to both Houses of Parliament.

Remains of a Roman villa of considerable proportions have been discovered near the Romano-British camp on Ham Hill, Somerset, by Dr. R. Hensleigh Walter, of Stoke-under-Ham, who recently presented to the County Museum at Taunton the collection of Romano-British relics discovered by his grandfather, his father, and himself in searches on the hill extending over a century. The site of the villa is a portion of the parish of Stoke-under-Ham, known as Stancheater. Recent digging has led to the discovery of foundations, a concrete floor with numerous tesserae scattered over it, portions of roofing tiles, and fragments of painted wall plaster and brick, giving evidence of a Roman villa of some size. The relics found have been presented to the County Museum.

The procedure to be observed in regard to the subsidy to builders under Dr. Addison's new scheme has, it is stated, now been decided on. The builder himself will not be in touch with the Ministry of Health throughout the transaction. Plans for the proposed building must be sent, as usual, to the local authority, which will be provided with forms of application for the subsidy, to be filled up by the builder. The local authority will have full instructions as to the requirements of the Ministry, and will report whether these are complied with. Finally, when the house is built the surveyor will send his certificate that the necessary standards have been observed, and that the work is satisfactory, on which the Ministry of Health will forward a cheque for the subsidy direct to the builder.

Tenders were opened last Saturday at a meeting of the Worcestershire Standing Joint Committee at Worcester for the erection of police cottages. The accommodation will consist of parlour, living-room, three bedrooms, bath-room, and coal place. At Drakes Broughton four cottages are required, and the tenders varied from £740 each to £1,000, exclusive of the land. Mr. Bund, the chairman, asked the committee if they desired to accept any of the tenders. Lord Deerpark said that the price seemed enormous. The tenders for two cottages at Whitehall ranged from £1,620 to £2,036. The chairman raised the question of wooden cottages at £500, and subsequently stated that the architect (Mr. Rowe) said that such cottages were of no use for them. Mr. Smith moved that they accept the £740 tender for Drakes Broughton, remarking that he did not think they would get the £150 bonus. The motion was agreed upon. It was decided to adjourn consideration of the Whitehall tenders.

To provide for municipal office and clinic extensions Acton will give £8,350 for property whose owner desires that it shall never be sold to Roman Catholics or for the erection of a public-house, brewery, or cinema.

The War Memorial at Gorleston will be the addition to the church of a chapel, clergy vestry, and heating installation. The clergy vestry will be on the north side, and provide seating accommodation for 70 or 80, and be useful for the Church Council meetings. The heating apparatus will be a hot water system with radiators. A faculty is to be obtained for carrying out these improvements.

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Strand, W.C.2

OUR ILLUSTRATIONS.

A Battlefield Cemetery, "Somewhere in France." Mr. W. Warman, Architect.
Huddersfield Parish Church. Plan Elevations and Sections. Sir Charles A. Nicholson, Bart., M.A., Oxon., F.R.I.B.A., Architect.
Viscountess Barrington's Village Homes for Disabled Soldiers and Sailors, Shrivvenham, Berks. First Pair of Houses Elected. Plans and Elevations. Mr. Herbert George Ibberson, F.R.I.B.A., Architect.

Currente Calamo.

The discussion at the Surveyors' Institution on Mr. Andrew Young's Presidential Address was a lively but quite amicable one. Mr. Norman Savill thought the present system of electing the president by seniority should be seriously reconsidered; the fact that up to now the system had worked smoothly was not proof of its excellence. It would be preferable for the Council itself every year to elect its president by a two-thirds majority, and he thought, and others thought so too, that it would be better for a president, after his term of office, just to go back to his Council as an ordinary mortal, and not become, as at present, a little god. He thought the Fellowship should be made still more difficult to obtain. Mr. Edward Willis could not help feeling the Institution did not cater enough for municipal and county surveyors, whose work had increased so enormously in consequence of important Public Health and other legislation. Mr. G. F. Page (chairman of the Surrey Branch) considered, despite the altered constitution and rules, that the provincial branches were still like foster children of the Council, and not allowed much scope to do anything. Sir John Oakley, the president, and Mr. Howard Martin, whose ideas carried great weight, had all referred to the need for improvement of the representation of the provincial branches, and if they were to get into closer touch with headquarters they should have more power of nomination for election of the Council. Mr. E. Witton Booth emphasised the advantages which Junior members in London obtained over provincial members, and the great need for co-operation with similar institutions, such as the R.I.B.A., the Society of Architects, civil engineers, auctioneers and municipal and county engineers. Mr. J. H. Salmon pointed out that five hundred civil servants out of a total membership of 5,000 belonged to the Institution and had not a solitary representative on the Council. Mr. Frank W. Hunt said the younger members felt they had very little lot or part in influencing the conduct and affairs of the Institution. It was proved that some

change was needed, and he thought the best representation would be the territorial basis. Mr. G. C. James emphasised the interest which civil servants felt in the Institution, and thought the position of the Junior Committee showed lack of touch between the senior and younger members. Mr. A. B. Thornton said he did not know why it should cut civil servants off from the Council because they took a salary and not a Government fee. He suggested that a strong committee be formed and called a Reconstruction Parliamentary Bills Committee. They could make one of their most progressive men chairman of that committee, co-opt other men from outside, and they ought to appoint an assistant secretary. The Institution would be looked upon to give valuable advice to the Government.

The Minister of Health informs us that he has had under consideration questions which have been raised in regard to extra remuneration for work performed by clerks to local authorities in connection with the arrangements for the erection of houses under Assisted Housing Schemes. In general, and particularly in the cases of the larger authorities who employ comparatively large staffs, it is considered that no departure should be made from the rule that the capital accounts relating to works carried out by local authorities should not be charged with any part of the authorities' ordinary administrative expenses. It is realised, however, that it may be necessary in the earlier stages of a scheme to employ additional temporary clerical assistance specifically in connection with a housing scheme, and where this is the case the payments made for such temporary assistance may be charged to the capital account of the scheme. In some cases, however, and particularly in those schemes undertaken by rural district councils where houses will be erected upon several sites situated in various parishes, it has been urged that much of the extra work involved will fall upon the clerk himself, and will often prove exceptionally heavy, and that the authorities may consider that some remuneration to the clerk should accordingly be made. In such circumstances the Minister will be prepared to consider an appli-

cation for authority to charge a payment to the clerk to the capital account of the housing scheme; he will, before sanctioning, require to be satisfied that the work has been efficiently performed, and the amount sanctioned will, as a rule, not be at a higher rate than £100 per annum, or for a longer period than one year from the date of inception of the scheme.

At a conference of Authorities of the West Midlands, held at Birmingham on Wednesday week, the Lord Mayor, who opened the proceedings, said he hoped it might be possible before very long to bring in again those experts in private enterprise who had in the past been able to do so much for local authorities. The conference first discussed the question of the raising of the money required for housing schemes, and passed a resolution in favour of the raising of a national housing loan, the requisite advances to be made to all local authorities, irrespective of the rateable values of their areas. Mr. Douglas (Kenilworth) expressed a wish that preference should be given to local authorities under £200,000 rateable value, and moved an amendment to that effect. It was not seconded, however. Mr. Mair (Newcastle) pointed out that there was an enormous amount of money lying in sinking funds which could be got at 2½ per cent. for building purposes, if permission were obtained. Why should they pay 5½ per cent. for raising the money? Mr. Farmer (Housing Commissioner for the West Midlands) said he rather favoured tendering in a lump sum to the suggested new system. Incidentally, he alluded to the question of the alleged slackness among builders' employees. He remarked that the number of bricks laid per day of 8½ hours differed on every job, as well it might, because the supply of the materials differed. If the materials came along regularly, so that the bricklayer and carpenter could see they would not be out of work next week, he defied anybody to say there was any slackness going on in any of the five counties in the region for which he was responsible. On a resolution dealing with the standards of housing, complaints were made that in some districts the Ministry were permitting the erection of too many houses to the acre. Mr. Farmer replied that local

authorities themselves could help to avoid that undesirable practice.

The housing question was second only to that of winning the war, said Alderman Rhodes, of Chesterfield, who presided on December 18 over a conference of delegates from the local authorities in four counties—Notts, Derbyshire, Lincolnshire, and Leicestershire—held at Nottingham to discuss the housing problem. Local authorities should, he added, urge upon the Government the need of a national loan for housing, as otherwise the money could not be raised. The conference adopted a resolution recommending that a national housing loan should be inaugurated, and that the requisite advances should be made to local authorities irrespective of the rateable value of their areas. It was also declared that the present conditions regarding the supply of building materials and transport constituted a grave public scandal. Mr. Aldridge expressed the view that the whole business wanted reorganising from top to bottom. Another resolution was adopted asking the Government to recommend to local authorities as an alternative method that they should favourably consider entering into arrangements with builders for erecting houses on the basis of prime cost, plus a fixed charge to cover profit, use of plant, and establishment charges.

An excellent guide in selecting employment for girls and boys leaving school has been issued by the Glasgow Advisory Committee for Juvenile Employment, giving some very useful information regarding occupations for boys and girls in which they have to play their part in the future life of the community. Our own industries are specially mentioned as offering opportunities to boys leaving school. "A large amount of building activity is assured," it is observed, "and employment will be plentiful for some years to come. The joiner has been looked upon as the principal tradesman—possibly because he usually is on the ground at the beginning of a job fitting up temporary shelter for the workmen, and because he is employed right through to the end. On this account inspectors were formerly selected mainly from the joiner trade, but now (with the facilities for technical education) any tradesman can fit himself for the position of inspector of works. It is necessary that any boy who intends to rise above the lowest position in his trade should attend technical classes. In some of the trades there is an effort being made to make the attendance at technical classes compulsory, and employers in most cases either pay or refund the fees."

Probably because the Housing Act has been much better administered in Scotland than here progress is being made far more quickly. Since the beginning of July 2,000 new houses have been erected or are nearing completion, and between 2,000 and 3,000 more will be shortly under way. The Scots, it appears, are not seriously

hampered by lack of material, but they have had in not a few cases to abandon their traditional preference for stone, and to follow the English taste for brick, even in towns close to some of the best quarries in Scotland. By common consent the palm for building enterprise in Scotland is given to the city of Dundee.

ARTIFICIAL LIGHTING: COMMON FAULTS, AND SIMPLE REMEDIES.

Artificial lighting, in one form or another, is used by everybody, and, as in the case of most of the basic necessities of our existence, it is apt to be taken for granted, and given insufficient attention in regard to kind and quality. Indeed, a great many people do not attend to their lighting at all. They take whatever happens to be installed in their houses, without giving any greater consideration to its efficiency or effectiveness than they would give to the quality of the wood used in the floors. Things of eclectic appeal, like motor-cars and player-pianos, are examined with microscopic intentness and discussed, perhaps for weeks or months, before the purchase is completed, while artificial lighting, which is one of the essential bases of domestic comfort and industrial efficiency, is too often regarded as a thing of no more importance than the whitewash on the ceiling.

Things have certainly improved during the last few years, owing largely to the educational efforts of manufacturers of lighting appliances, and many light-users have progressed to the stage of requiring that the lighting installation shall produce effective results. Much remains to be done, however, in the direction of training the public in the proper use of light, and in this connection the builders and designers of our houses and factories should be able to exercise an important and beneficial influence.

INSUFFICIENT LIGHT.

One of the commonest faults in lighting is insufficient quantity. The eye is formed to function by daylight, and it is obviously unreasonable to expect it to work properly by the poor artificial illumination which many people appear to consider sufficient. Without going into any of the scientific methods of testing the exact intensity of illumination, there is one very simple means of finding out whether the lighting is sufficient. The ultimate criterion of illumination is the extent to which it facilitates vision. If a man can see to do things as well and comfortably by artificial lighting as by good daylight—if he can write or read or do any close work under artificial lighting for as long a period and with as much ease as by daylight, then the lighting will pass the sufficiency test. But there are not many people who can honestly say that of their illumination.

The reason why so many people are content, or apparently content, with inadequate lighting is simply that they have been accustomed for the greater part of their lives to systems of lighting, such as gas and oil lamps, which, by their very nature, are inflexible and unadaptable. When once gas has been installed, and the fittings put up, it is practically impossible to make subsequent increases in the illumination. At the best, it means putting up another fitting, with extra burners, and, at the worst, it may involve the use of a larger supply pipe.

With electric light there is no difficulty in increasing the illumination. It is merely a matter of taking out one bulb and putting in a larger one. Assuming that electric cables of normal size are em-

ployed, it is usually possible to increase the size of the lamps very considerably without making the slightest alteration in the wiring.

Incandescent electric lamps (including the new half-watt type, as well as the ordinary metal filament lamps) are made in a variety of sizes from 5 up to 3,000 candle-power, all of which are suitable for interior use. Of course, the lamps exceeding 200 candle-power would not ordinarily be used in private houses, and if they were so used it would probably be necessary to employ heavier wires.

However, the choice is wide enough. Any ordinary lamp-holder, whether in private house, factory, shop, or office, can be fitted with any one of about eight different sizes of electric lamps, ranging from a lamp only suitable for use in a small table standard, up to a lamp giving nearly 200 candle-power—sufficient light for a big room. With electric light, therefore, the remedy for insufficiency is simple and inexpensive.

WASTED LIGHT.

In spite of the usual, or, at any rate, frequent inadequacy of artificial light, most people do not seem averse from wasting the little they have. All light which is absorbed without performing any useful function is wasted, and the remedy for this is to equip the lamps with a reflector which will throw the light where it is wanted.

A bare electric lamp throws out light in all directions, mostly in the horizontal plane. In a room where a good working light on a table is required these horizontal rays are wasted, because they strike the wall-paper (probably of a dark colour) and are absorbed. The upward rays are of more value, since they are reflected downwards by the white ceiling. Under average conditions, with medium coloured wall-paper and a white ceiling, it is probable that from 50 to 70 per cent. of the light is wasted—that is to say, does not reach the level where illumination is required. Now, by equipping this lamp with a glass or metal reflector of approved scientific design, it is possible to control and redirect the light, so that 70 or 80 per cent. is received on the working plane. The economy of such a procedure is evident, since, if a larger proportion of the light can be usefully employed, it will be possible to obtain the same results in illumination from a smaller lamp.

Bare lamps are wasteful, but less so, as a rule, than lamps fitted with the ordinary ornamental glass or silk shades. These shades are generally coloured, and naturally absorb a great deal of light, sometimes as much as 75 or 80 per cent. The light in these cases is not even given a run for its money, but is trapped and absorbed within an inch or so of the lamp.

Of course, people do not use these shades with the idea of increasing the efficiency of the lighting, but, on the other hand, they probably do not realise the extent of the waste involved. Coloured glass and silk shades are used because they are supposed by many people to be the only forms of artistic equipment obtainable. This may have been true eight or ten years ago, but it is certainly not true to-day. That art is not opposed to efficiency is demonstrated by systems such as the semi-direct and indirect methods of electric lighting, in which beauty of design and illumination is coupled very effectively with an efficiency of operation far beyond anything previously achieved in decorative lighting.

GLARE.

Glare may be defined as a condition of excessive brilliance which causes visual discomfort. Any modern illuminant will produce glare if exposed to direct view,

and, naturally, the more brilliant the light source, the greater the glare. Glare is one of the commonest evils in artificial lighting, and perhaps the most disregarded. Men and women who are constantly troubled with eye-strain and headache when working under artificial light frequently ascribe their physical condition to overwork or general debility when in many cases it is solely due to the presence of glaring light sources in the line of vision.

Of course, most people realise the discomfort (if not the visual damage) caused by the use of bare lamps, but it needs to be emphasised that glare may actually be increased by the use of unsuitable shades, etc. To take an example: a desk lamp fitted with a reflector would, if so disposed as to throw the light into one's eyes, produce a greater effect of glare than the same lamp without a reflector. It is not enough merely to put a shade or reflector round the lamp. The equipment must be so arranged that the lamp is either completely enclosed, or is, at any rate, not visible from any normal position.

This requirement can be fully and conveniently satisfied in the case of electric light by means of either the semi-indirect or indirect systems of lighting already mentioned. In the former system the lamp is screened by a translucent white glass or alabaster bowl suspended beneath it, and in the latter system is completely hidden by an opaque reflecting bowl, the light being reflected upwards to the ceiling, and thence diffused throughout the room. With either of these methods it is possible to use electric lamps of the highest brilliance, such as the half-watt type, and to secure an extremely beautiful and agreeable illumination entirely free from glare.

It is not so easy to eliminate glare with ordinary direct lighting, because, however the shades or reflectors are arranged, the lamp must be visible from directly underneath. But if the lamps are fixed as high as possible (certainly not lower than 8 feet or 8 feet 6 inches), and equipped with deep reflectors, there will be very little glare.

SHADOWS.

One of the most difficult problems in artificial lighting is that of minimising shadow effects. It is not, of course, desirable to eliminate shadows altogether, even if that were possible, because a certain amount of light and shade contrast is necessary, not only for æsthetic reasons, but also for proper vision. But deep shadows on books and papers are a great hindrance, and should be avoided as far as possible. In an ordinary room, lighted directly by a single ceiling point, it is practically impossible to avoid shadows if several people are attempting to read or write by the same light.

Where direct lighting is used, unless a large number of lamps are installed, it is necessary to arrange the light unit or units so that no shadows will be cast by persons in a normal working position. The great disadvantage of direct lighting in this connection is that in a workshop, for example, any changes in the positions of benches or machines will probably necessitate a corresponding alteration in the locations of the light sources unless these are very closely spaced.

Shadows may be reduced by improving the diffusion of the light—that is to say, by arranging matters so that the illumination at any given point proceeds either from a number of different directions or, what amounts to the same thing, from a relatively large area. In many cases it is not desirable to multiply the number of lamps, so that the second alternative must be employed. It will be evident that the

most effective method of increasing the apparent area of the light source is the indirect lighting system, in which the ceiling becomes, in effect, a light source of low intrinsic brilliancy. With this system it is possible to see to read or write in any part of the room, and in any position relative to the light unit. The semi-indirect system also tends to reduce shadows, but not, of course, so thoroughly as the completely indirect system.

Our Illustrations.

A BATTLEFIELD CEMETERY IN FRANCE.

This is an illustration of "a garden of sleep," the scene "somewhere in France." The foreground consists of rocks and trees, amid which are the tombs of some officers who fell in the vicinity. Beyond, in the middle distance, is a green sward with avenues of trees forming one huge cross, the centre of which is marked by a stone obelisk. A screen of four triumphal arches, surmounted by bronze groups, connect up these four avenues. Outside are placed the graves of heroes who made the great sacrifice, each marked by a headstone. In the distance a viaduct spans the valley, and contains records and trophies of the regiments engaged thereabout. This fine water-colour drawing was well placed at this year's Royal Academy, in the Architectural Gallery. The architect of the scheme and painter of this picture is Mr. W. Warman, of Arthurclon-road, Brockley, S.E.

HUDDERSFIELD PARISH CHURCH. WORKING DRAWINGS.

This church was rebuilt early in the 19th century, and is a curious monument of Churchwarden Gothic architecture, not without a certain grim dignity. The scheme is to add an adequate chancel to the present church, and eventually to rebuild the latter entirely. For this reason the plan is arranged so that the new work can be built with a minimum of disturbance of the use of the present church. The design is for a stone building throughout, and the style adopted is simple and substantial, as the climate of Huddersfield does not lend itself to a fanciful type of design. Sir Charles A. Nicholson, Bart., M.A. (Oxon), F.R.I.B.A., is the architect.

VISCOUNTESS BARRINGTON'S HOMES FOR DISABLED SOLDIERS AND SAILORS, SHRIVENHAM.

These cottages, now nearing completion, are built with 9-in. brick walls covered with cement roughcast, and are roofed with tiles removed from an old building recently pulled down. The contractors are Messrs. W. A. Wheeler and Co., of Wantage, Berks, and Messrs. F. Clubb and Son, Park Works, Sudbury, Suffolk, are supplying the iron casements and lead glazing. Messrs. Carter and Aynsley, Ltd., Bishopsgate, E.C., are supplying the ironmongery and hardware. The contract sum is £1,500, inclusive of everything except fencing and architect's fees. Mr. Herbert G. Ibberson, F.R.I.B.A., 9, Old-square, Lincoln's Inn, is the architect.

Mr. Frank Chapman, drainage surveyor to the East Suffolk County Land Drainage Committee, 43, Pomereau Road, Ipswich, wishes to get in touch with a firm who make a mechanical device suitable for cleaning out small rivers. He requires an apparatus that could be operated from the bank, the channels not being wide or deep enough to allow an ordinary dredger to work.

HEALTH MINISTRY'S HOUSING REPORT.

New schemes submitted to the Ministry during the week ended December 13 numbered 132. The total number of schemes submitted by local authorities and public utility societies is now 7,604, comprising about 56,500 acres. The schemes approved now number 3,007, comprising about 28,500 acres.

Seventy-eight lay-out schemes were submitted, and sixty-three approved during the week, making the total number of lay-outs submitted 1,845, and the number approved 1,201.

House plans representing 4,714 houses were submitted during the week, and plans for 4,767 houses approved. The total number of houses represented in the plans submitted is 75,170, and in the plans approved 59,964. Tenders for 19,599 houses have been submitted, and approval given to tenders for 15,987.

Under an arrangement made between the Ministry and the Building Re-settlement Committee of the Joint Industrial Council of Building Trades, local Master Builders' Associations have in many cases been consulted with a view to the erection of houses by the members of an association at a fixed price to be agreed upon between the association and the local authority. The agreement provides that the houses to be erected by the association under this arrangement shall be distributed among the members in accordance with their various resources. Meetings have been held in all parts of the country to discuss these proposals with local associations. The results of the meetings show that the Associations of Master Builders are, on the whole, entering wholeheartedly into the scheme, and provisional arrangements have been made in eight districts for the erection of 2,625 houses under this scheme. In this figure are included 1,500 houses to be erected for the Town Council of Birmingham.

MAKING A TIGHT JOINT IN A GAS MAIN.

W. M. Henderson, says the *Technical Review*, in a paper presented at the recent annual meeting of the Pacific Coast Gas Association, gives useful information and clear instruction concerning the making of tight joints in gas mains. The conditions contributing to a good joint, he tells us, are found in a cement filling; not neat cement, as commonly used, but a mixture of cement and sand. Neat Portland cement, in the process of setting, rises in temperature over a range of 60° F. This rise in temperature causes expansion, to be followed by contraction and cracking on cooling. The proportions recommended are three of cement to one of clean and not too fine, but not necessarily sharp, sand. The water used should be just sufficient to make a dough that will hold its shape. It is important to use good yarn. The old hemp rope cannot be excelled.

In laying pipe for cement joints, the procedure is the same as with lead, with a few additional precautions. The pipe must be in its permanent resting-place, well blocked and tamped. Green joints must not be stepped upon. As much as possible of the pipe's surface should be covered with earth to protect it against changes in temperature. Precise instructions for making the joint, with illustrations of the methods of handling, are given. Such cement joints are as tight as lead joints, and, as a comparative table shows, much cheaper.

Mr. J. Blanchard, Meole, Brace, Shrewsbury, was the architect of the Young Women's Christian Association hall, opened recently by Mrs. George Cadbury, in St. Julian's Friars, Shrewsbury. Mr. Blanchard's plans were selected in competition, thus securing the £500 allotted, and so ensuring the building being started at Shrewsbury instead of its going further afield.

Mr. Enoch Ward, R.B.A., of Hampton Wick, has suggested to the local authority there a new form of war memorial. It is that a light, artistically mounted, should be erected above each side of the central arch of Kingston Bridge. Mr. Ward's idea is that this form of memorial might be adopted on the other Thames bridges, and that the lights would help navigation.

PROPER METHODS OF APPLYING ROOFING ON A GYPSUM ROOF DECK.

By CURTIS F. COLUMBIA.*

There are no available statistics to determine, even as an approximate figure, the total amount of roof area constructed of gypsum during the past fifteen years; but it is safe to say that the great number of installations are tremendously significant, and conclusively prove that the leading engineers and architects throughout this country are recognising the peculiar value of gypsum, and are realising its particular adaptability for the roof decks of factories, machine shops, power plants, chemical works, paper mills, and all other types of industrial buildings, as well as certain types of commercial buildings. In view of the growing importance of this material, we print some notes on the proper methods of applying roofing on a gypsum roof deck. These notes are from an article by Curtis F. Columbia in "Engineering and Contracting."

This popularity is directly due to the fact that gypsum, when moulded into the form of slabs or tile, is perhaps the best known material for fire protection, as well as possessing that valuable asset of lightness which cannot be found in other roof deck materials. Gypsum weighs 50 per cent. less than concrete, thereby making a considerable saving in the steel framework necessary to sustain the required loads. The large units are quickly erected, and may be placed during freezing weather. Gypsum is not disintegrated by acid fumes, which is a decided factor when the problem of a roof deck presents itself for the construction of gaswork buildings, railway roundhouses, and chemical plants.

Furthermore, the fact that gypsum transmits so little heat makes a roof deck which is free from condensation and the annoying and costly "drip" which always accompanies the presence of moisture when it is permitted to collect on the under side of the roof. This moisture penetrates the roof deck and rots the roof covering in a very limited time, causing leaks and in time total disintegration. With a gypsum roof deck this cannot occur.

In view of the advantages of gypsum, and believing that there is sufficient evidence that the gypsum roof has come to stay and will increase in popularity, the following data have been compiled with reference to the materials and methods of applying various roof coverings. First, however, it is necessary to briefly outline the construction of the finished roof deck.

POURED AND PRECAST ROOF.

There are two generally accepted types of gypsum roof deck, "poured roof" and "precast tile." Each has its advantages. The poured-in place roof is a somewhat unique construction, in which steel cables are suspended from truss to truss and are embedded in a slab of gypsum which is poured on the job, the cables taking up the full roof load. The precast tile are manufactured in definite sizes and shipped to the building site ready for immediate erection. The gypsum tile, however, is generally accepted as the most economical, as well as presenting certain distinct advantages. There is no form work required in the placing of the tile, which makes it an ideal method for re-roofing, as the construction work can proceed without interference with plant operation.

The tile are placed in units, without mortar. The joints between the tile are then grouted with gypsum consisting of one part unfired cement gypsum plaster and three parts of clean sharp sand. As each tile is individually machine-moulded, the surface of the roof is practically uniformly smooth, and there is no possibility of uneven surfaces tearing or cutting the roof covering. Curbs under monitor or sawtooth sash, and end walls of monitors or sawtooths are constructed of 3-in. solid gypsum tile. When the tile, end walls, and gutter fill are in place the roof may be applied immediately.

This roof covering may be any one of the various forms, but when baked tile, slate, or Ludowici tile are to be applied, an extra dense thick nailing deck should be specified. Cut nails or barbed slater's nails are used, having at least 1½ in. penetration into the

gypsum deck. No nailing strips are required as in concrete roofs. This is particularly advantageous on steep roofs, as the roof covering not only can be anchored to the gypsum tile by means of hot asphalt cement, but can also be attached by means of nails. This is something that has been a great drawback to roofers when applying the covering over concrete, because almost always no provision is made for nailing strips of wood on which to anchor the covering at various places in order to relieve the strain. With gypsum tile, however, into which nails can be driven securely, the necessity of inserting nailing strips every 20 ft. is eliminated.

SELECTION OF COVERING.

There are certain considerations which should influence the selection of the most suitable type of roof covering. These considerations may be classified according to their importance.

(a) Probable life, which includes a number of factors—namely, damage by natural elements and damage by peculiar conditions, depending on the processes of the plant, such as presence of alkali or acid.

(b) Chance of leakage.

(c) Resistance to fire.

(d) Cost, which not only includes the original outlay, but maintenance.

The character of the roof deck should in every case determine the character of the weatherproof covering to be applied to it; and, vice versa, if the architectural requirements of appearance, service, resistance to fire are considered, then the roof deck must be such that it will satisfactorily receive and support the selected covering, and such that the union of the roof deck with the roof covering will constitute a completed roof fulfilling the requirements of life, service, and appearance.

It must be remembered that when a built-up roof covering is laid on a flat concrete roof slab the movement at expansion joints seems to demand the use of a membranous covering possessing tensile strength and ductility. No roof covering possesses these two qualities to a sufficient degree to eliminate the development of cracks causing leaks. Their ductility is affected by temperature, increasing with rising temperature until the melting point is reached, and decreasing with falling temperature until they become brittle.

The structural character of the intersections of roofs with vertical surfaces, such as end walls, is often overlooked and leaks will occur if there is the slightest likelihood of movement between the horizontal and vertical structure. The most favourable condition exists when the roof and vertical structure are locked together or are practically monolithic.

Slate should not be used on a pitch less than one-fourth, and preferably not less than one-third, and if this latter pitch is used the slate should be laid in elastic cement, since water is likely to be blown up under the slate in driving rainstorms. The lap of the slate should be greater for the lower pitch. For good construction there should in all cases be a layer of felt paper between the slate and the gypsum deck.

Hard-burned clay or terra-cotta roofing tiles are made in many forms and sizes, among which are plain tile, book tile, Spanish tile, pantile, and Ludowici tile. The standard colour of tile-roofs is terra-cotta red, but they are also made in varying shades and glazes.

Crown, ridge, hip, and valley-tiles are semi-cylindrical, or segments of cylinders, used for the purpose indicated by the name.

Tiles should be well burned and be free from fire-checks, cracks, blisters, and flaws. The tiles should have a glazed exposed surface to prevent absorption of water and consequent crack. Plain roofing tiles are usually made ⅝ in. in thickness, 10½ in. long, and 6½ in. wide. They weigh from 2 to 2½ lb. each, and expose one-half to the weather. Plain tiles are also made with grooves and fillets on the edges, so that they are laid without overlapping very far. Interlocking tiles weigh from 8 to 12 lb. per square foot. The lighter weight tile is most adaptable to gypsum roofs.

APPLYING TILE ROOFINGS.

The most common method of applying tile roofings is to cover the gypsum roof deck with

asphalt felt or horizontal strips of wood 1 in. high by 2 in. wide spaced to suit the size of the tile nailed to vertically laid battens nailed to the roof. The tile are then fastened to the horizontal strips with No. 12 gauge copper wires from pierced lugs at the lower end of tiles. The tile have interlocking side joints, and the horizontal joints are laid in elastic roofing cement of the same colour as the tiles.

Tin or copper sheets may be used on a gypsum roof of any slope if the joints are properly soldered. It is seldom used, however, except for penthouse roofs on apartment and hotel buildings where the area is comparatively small. The layers of felt paper serving as a cushion may be eliminated. The tin is nailed to the roof deck with 4d slating nails, which have a broader head than a common nail.

For small buildings or on such buildings where clay tile roofs are not the most desirable or economical on account of features of design, and where the pitch exceeds one-third, asbestos shingles make an excellent roofing. Laid in the "French" or diagonal method they present a fine appearance, and being furnished in several colours are suitable for use on residences, mansard roofs, etc.

Asbestos shingles are made of asbestos fibre and Portland cement under pressure, and are applied to the gypsum by first covering the deck with one-ply slater's felt and then nailing down the shingles with copper nails or clenchers, like ordinary shingles, or in diagonal or "French" fashion.

Tar and gravel roofs and composition roofs are applied by spreading upon the gypsum roof deck three or more courses of tarred felt weighing from 14 to 15 lb. per 100 sq. ft. for each course, which is then coated with an even layer of hot straight-run coal-tar pitch, the amount of which for each 100 sq. ft. should be from 100 to 120 lb. It is seldom necessary to nail the felt to the gypsum deck, as the material adheres perfectly. While the last coat of pitch is hot it is covered with screened slag or gravel, the amount used being about 300 lb. per 100 sq. ft. Nailing may be done where found necessary, but care should be taken that each nail is covered by at least two plies of felt.

Requirements for application of felt and pitch on gypsum poured decks is the same as that for concrete, except that the felt shall be nailed directly to the gypsum deck. The gypsum should be thoroughly dry when the pitch is applied.

REQUIREMENTS FOR PRECAST SLAB.

Requirements for gypsum precast slab are the same as the requirements of roof covering over wood sheathing with the exception that the resin-sized sheathing or unsaturated felt may be omitted. First two plies of felt should be nailed sufficiently to hold them in place and to prevent wrinkling or tearing of the felt. The last ply of felt should be nailed approximately 6 in. from the upper end of each sheet, nails should be spaced not more than 2 ft. apart, and not exceed ⅝ in. in length, and should be driven through flat tin discs 1 in. in diameter.

In the preparation of the surface of the gypsum deck, for the application of asphalt roofing, care should be taken to see that all sharp angles are filled so that the roofing material need not be bent to a radius of less than 6 in. On steep surfaces for flashing and anchoring the roofing at the eaves, provision should be made for anchoring roofing sheets with suitable anchor strip. The surface must be thoroughly dry and swept clean before the roofing is applied, and the deck should first be covered with a standard primer thoroughly brushed in.

Care should be taken in the use of a primer, as certain primers cannot be used with tar or asphalt with any degree of safety. Any good primer made of straight asphaltum cut with a good solvent such as benzole to a liquid form so that it can be brushed on, is usually satisfactory.

Another point which must be considered is that the gypsum tile must be entirely dry before the application of the primer. In many cases the hot asphalt applied would penetrate the surface, and the result would be—all of the advantages that are found in a priming coat, and accomplished in one

* "Industrial Engineer," New York.

operation. In this case the joints of the tile should be waterproofed with a very small amount of bituminous primer. One man with a long-handled brush could waterproof the joints on more than 100 squares of roof in one day.

Asphalt paint free from coal tar is often used as a primer, and reduced to proper con-

REINFORCED CONCRETE THEATRE-ROOF CONSTRUCTION.

From a construction viewpoint the feature of the "Allen" theatre recently erected at Toronto, according to the *Contract Record*, is the reinforced concrete roof and balcony, which were designed by F. G. Engholm and Partners. Supporting the roof there

in Fig. 2, and has the advantage of light weight, combined with maximum strength and rigidity. It has a clear span of about 46 ft. and is about 7 ft. 6 in. deep, projecting above the roof all but 18 in. of its depth.

The main advantage of this girder is that there are no diagonal members in the construction. This greatly facilitates the re-

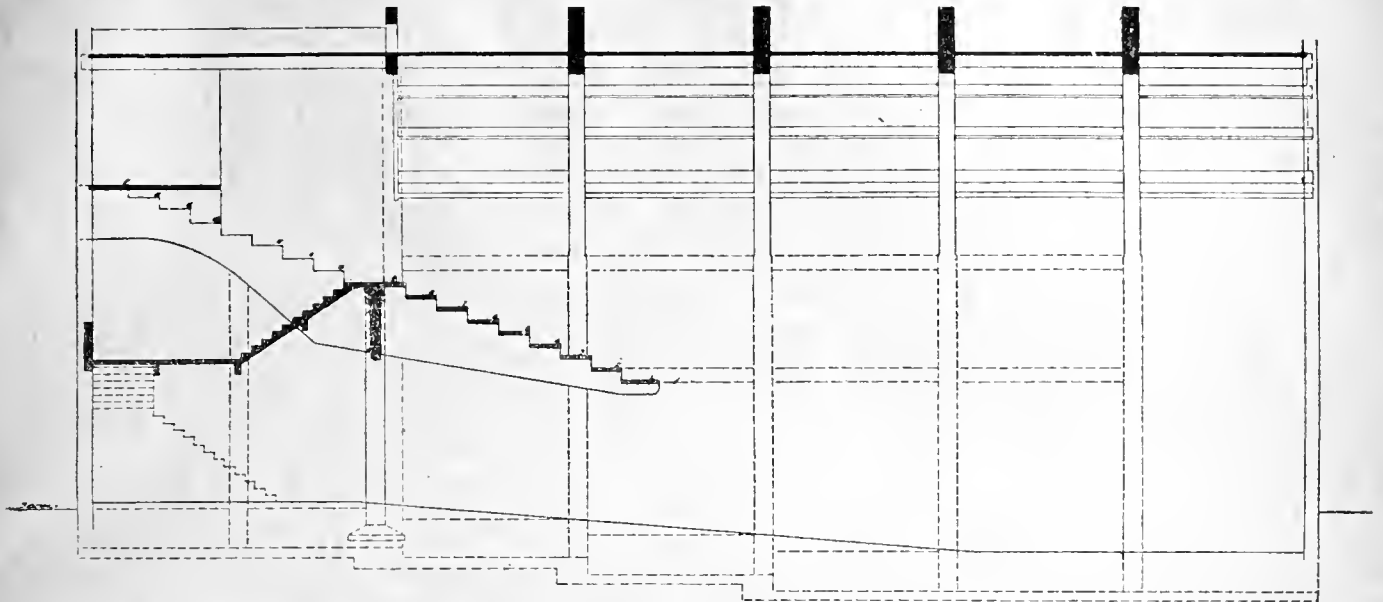


Fig. 1.—LONGITUDINAL SECTION OF THEATRE SHOWING ROOF AND BALCONY CONSTRUCTION.

sistency with petroleum naphtha so as to permit heat penetration.

In other cases the same primer is used as for concrete decks, which consists of a material having an asphalt base, and which is absolutely the best combination of materials which we know of for this purpose. In this case the primer should have at least twenty-four hours to dry.

BOND BETWEEN FABRIC AND DECK.

The only purpose of priming is so that there may be an actual bond between the fabric and the gypsum deck, said to help hold the roof covering in place when the covering does not have sufficient weight to resist weight suction from above, or with pressure from underneath. In nailing into gypsum there is some question as to the resistance when the strain is exerted perpendicularly with the nail, but in case the strain is exerted in any other direction nailing apparently serves the same purpose as it would be in a wood deck.

In dealing with the matter of the proper roof covering for gypsum roof tile, it is not only necessary to give consideration to the roof deck proper, but the building itself and the purposes for which it is intended should be taken into account.

Buildings on piers where boats are stored, especially boats of any size, are subjected to a distributing transverse or sideways motion due to shocks coming against the pier. This tends to break or disintegrate roof decks such as concrete slab; therefore, it would not be desirable to use a concrete slab roof deck or other similar material for a building of this kind. Since the buildings are of fireproof nature, it would not be best engineering practice to employ a wood roof deck. Therefore at this point gypsum is most common.

Thus, gypsum as a deck construction is economical, as it does away with many of the difficulties found in other types of roof deck. Gypsum tile may be used for any pitch, and are adaptable for comparatively any type of roof covering.

are four arch beams and one "open" girder, as shown in the longitudinal section in Fig. 1. This "open" girder beam is about 25 ft. from the rear wall of the auditorium and forms one support of

reinforced concrete work, as the members, being vertical, can be constructed in the same manner as ordinary reinforced concrete columns. The method of constructing this type of beam is usually as follows: The whole of the re-

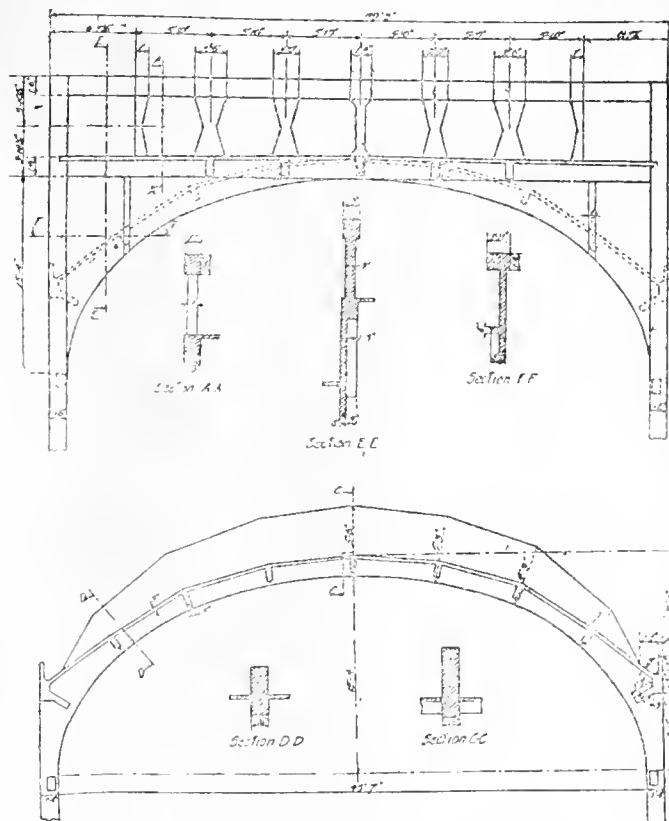


Fig. 2 (upper).—"Open" Girder of 46ft. span.

Fig. 3 (lower).—Details of arch beams.

Mr. Samuel Perkins Pick, F.S.A., F.R.I.B.A., of Salisbury Road, Leicester, has left £14,059.

It is proposed to build a Memorial and Thanksgiving Church at Billericay, Essex, where in the Zeppelin raid on September 23, 1916, one of the enemy machines was brought down by Major F. Sowrey, D.S.O. A site has been presented, contributions to which may be sent to Messrs. Barclay and Co., Billericay, Essex.

five longitudinal roof beams which span that distance and are carried at the other end by the brick bearing wall. It also supports, in suspension, the ends of nine longitudinal roof beams spanning a distance of about 13 ft. 8 in. to the first arch beam. This type of girder is of open or hollow construction, as shown

in Fig. 2, and has the advantage of light weight, combined with maximum strength and rigidity. It has a clear span of about 46 ft. and is about 7 ft. 6 in. deep, projecting above the roof all but 18 in. of its depth. The main advantage of this girder is that there are no diagonal members in the construction. This greatly facilitates the re-

is allowed before the pouring of the upper horizontal member, in order to provide for any shrinkage in the concrete.

The four arch beams are at about 13 ft. 8 in. centres and are all of the same design. They support, and are monolithic with, the nine longitudinal beams which carry the roof. Fig. 5 shows the form and dimensions of these beams. They have a clear span of about 46 ft. without ties of any kind. The rise of the arch beam is 15 ft. 4 in., and the greatest depth of the beam, at the centre, is 5 ft. 6 in. The arch treatment of the roof in this way is somewhat unusual and gives the interior of the building a very pleasant architectural appearance.

The balcony, as shown in Fig. 4, is a large reinforced concrete cantilever, 25 ft. in the clear, anchored to the brick bearing wall at the rear. Its greatest depth is 5 ft. 10 in., at which point a transverse beam is formed,

THE USE OF ELLIPTICAL VAULTING AS A PRIMARY FACTOR IN CONTEMPORARY ARCHITECTURE.*

By MAURICE S. R. ADAMS, A.R.I.B.A.

Rightly or wrongly, I hold that man has in his nature something of the divine element, which he is able to express in the work of his hands. A great painter, for instance, puts into his work something which cannot be measured or defined, analyse the brush marks as you will. The work is something more than a piece of painted canvas, and its value is measured not by size, but by the spirit which is visible, as it were, behind the picture.

Likewise architecture is more than bricks and mortar, and in the best examples something precisely similar is manifested behind the actual and visible stones. Therefore, in using the word architecture, I include only

a beam truly scientific and architectural, the cross section would have to be reduced in exact proportion to the diminishing strength required. This would be virtually impossible to do in practice owing to the difficulties of manufacture; also for other reasons it would not be at all desirable. But here at once we come up against the question of the natural stresses of tension and compression; and I would lay it down as a maxim that as far as possible all tensional stresses should be eliminated and compression stresses relied upon.

Gothic architecture was the finest and most wonderfully natural mode of building the world has produced. I will not suggest that the style was free from corruption. In fact instances may be found, at all periods of its development, of departure from the true principles. But taken as a whole, the development was entirely natural and logi-

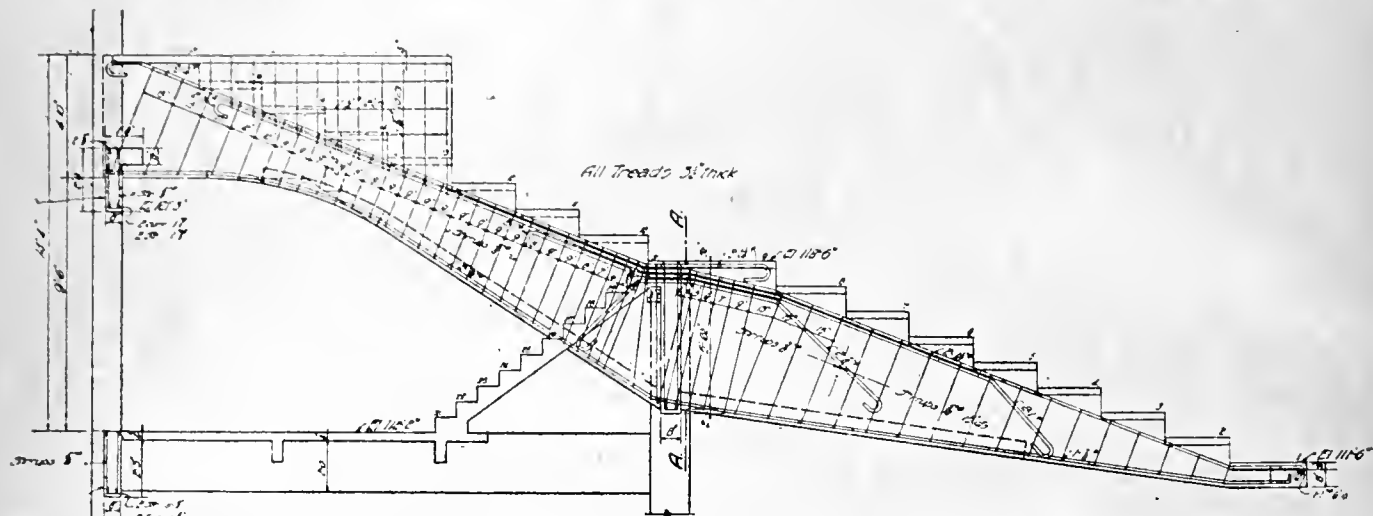


FIG. 4. CONCRETE CANTILEVER CARRYING THE BALCONY.

resting on four reinforced concrete columns, which, together with two columns in each side-wall, support the weight of the balcony. Where the reinforced concrete takes bearing on the brickwork, it was poured directly on the brickwork, after the latter had time to dry out. The anchored portion of the balcony, from the rear wall to the four supporting columns, is 22 ft. 9 in., while the overhang is 25 ft. in the clear, giving the balcony a total depth of 47 ft. 9 in. The anchored portion of the balcony is 11 ft. 8 in. narrower than the rest of the house, having a width of 36 ft. 7 in. All treads are 3 1/2 in. thick.

The foundations of the building are of reinforced concrete beam construction and the remainder of the structure is masonry. A "fireproof" construction is thus secured, and maintenance will be a minimum. Where the roof beams project above the roof surface, the concrete is protected from any possible deterioration through the action of frost, by the use of R.I.W. waterproof paint.

The architects of the building were Messrs. Hynes, Feldman and Watson.

At last week's meeting of the Perry Bar District Council a full report of the Housing Committee stated that the Ministry of Health had not yet given a certificate, which had been asked for several times, and complained that the attitude of the Ministry was delaying the scheme. Notwithstanding, the Committee had decided to engage an architect, and also decided upon the type of house which they intend to build in the area.

A meeting was held in the schoolroom, Churchstoke, last week, when the Vicar reported that a sum of £1,305 had been subscribed, and it was agreed that about £100 should be spent on a memorial to the fallen, the selection and site to be left in the hands mostly of relatives of deceased soldiers. With regard to the proposed village hall, it was decided that a committee, consisting of Messrs. S. R. Heap, S. H. Puckle, C. B. Bailey, W. V. Davies, and R. C. Evans should obtain plans and estimates for consideration at a future meeting. Messrs. D. Ward and R. Rogers were elected secretary and treasurer of the fund.

such buildings as express something more than structural stability and practical efficiency.

The art of architecture is the power to interpret Nature in building. Our whole system of creation is governed by fixed and unalterable laws. Success in architecture may be measured by the artist's power consciously or unconsciously to understand and interpret these laws. Aim at producing what is natural and beauty will follow. This theory cuts at the root of modern practice and of that method of design which treats of architectural expression as surface decoration only, without reference to the construction. Our street architecture abounds with examples of the kind. Architectural forms and features of any past style are copied more or less literally and applied as surface decoration over modern construction, which it makes little or no attempt to express.

Features such as columns, porticoes and pediments whose forms originated in structural necessity, are now commonly employed as mere ornament. From this conception of architecture I beg to differ, and I maintain that architectural forms must be evolved from the construction, which they are bound to express.

Broadly speaking, there are two main constructional forms—the arch and the beam. Both have been used from time immemorial in all countries. The beam is probably of earlier origin, but the arch, by virtue of its more scientific character for anything but the smallest spans, has had far greater influence in the development of style. My view is that beam construction as practised to-day is not only unscientific, but unarchitectural. Beams of uniform section throughout their length contain a large proportion of waste material, which far from increasing the strength of the beam actually decreases it by reason of the extra load the beam has to carry. In a beam supporting an equally distributed load the weakest point is at the centre of the span. In order to make such

cal, and structural forms were determined and expressed exclusively by the interpretation of natural laws.

All this was changed when the vertical element in the design, which formed the keynote to the style, was gradually replaced by the horizontal element. This resulted in the final collapse of the style, for Gothic architecture is not possible with a horizontal motif. Hence came a departure from true architectural principles, and architects began the period of false tradition which has been followed through a variety of phases right up to the present day.

Many so-called revivals have taken place, but real architecture is possible only by giving expression to current needs through current methods of construction in current materials.

The stone vaulting, the use of which gave rise to the whole system of buttressing and formed a marked characteristic of the style, was replaced by timber roofs. These being constructed without side thrust, at once gave the lie to the now meaningless buttresses.

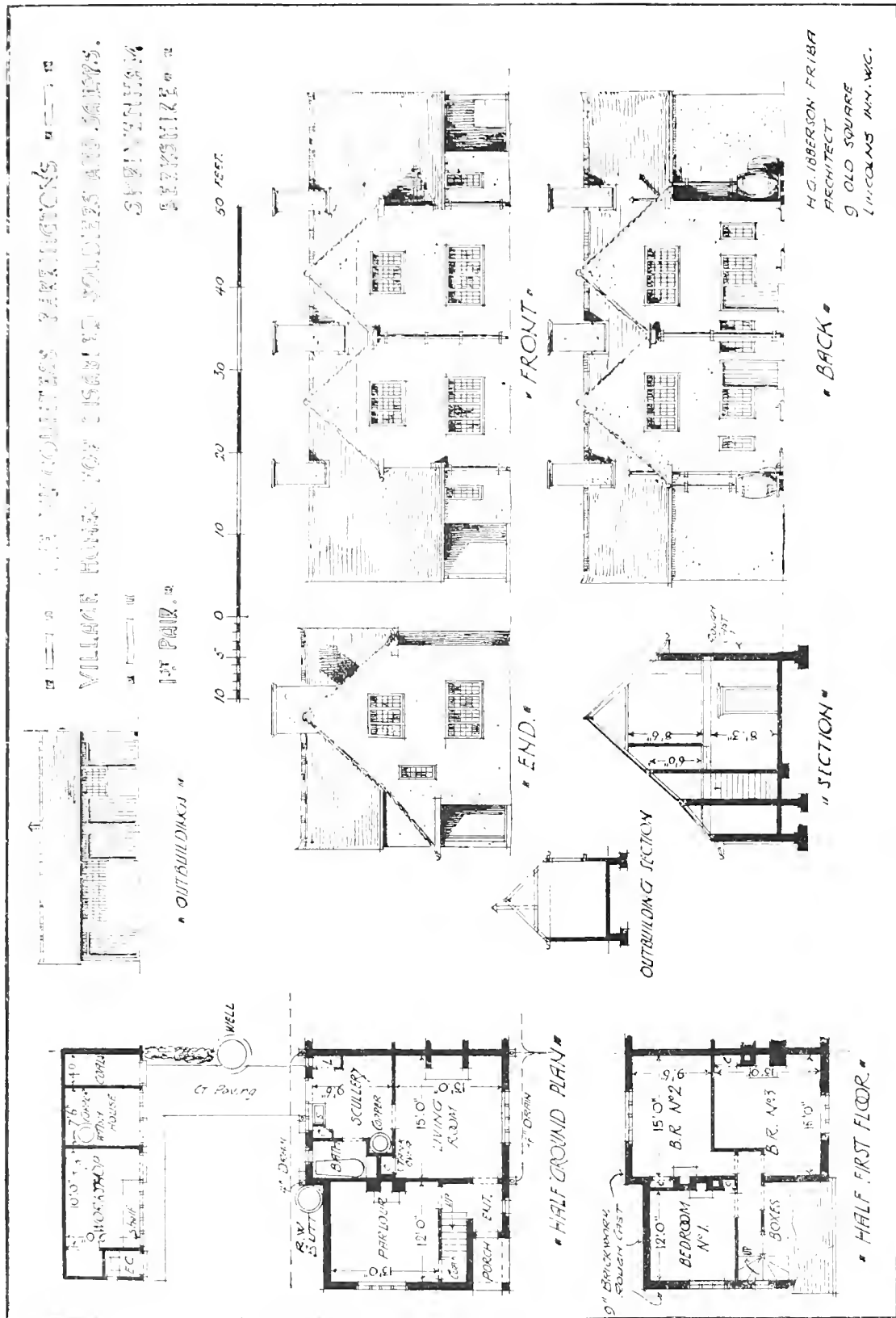
Gothic design or the Gothic principle may be made use of to-day as in the Middle Ages; but the buildings resulting from its adoption or re-introduction will display a marked difference in detail if not in form from buildings of the Middle Ages. The practical limitations of those days are not imposed upon us to-day. Modern methods of building and construction are essentially different. Apart from this, the mediæval plan does not satisfy modern requirements.

Any literal attempt, therefore, to revive a former style or period of architecture must fail from an artistic point of view. Architecture is a live Art, expressing current ideas.

If ever a true style of modern architecture is to be evolved, it will only be possible by allowing full scope to every advantage and facility which modern science affords for building, guided by a strict interpretation of natural laws and principles as now advocated.

* From a paper read before the Concrete Institute on Dec. 18.

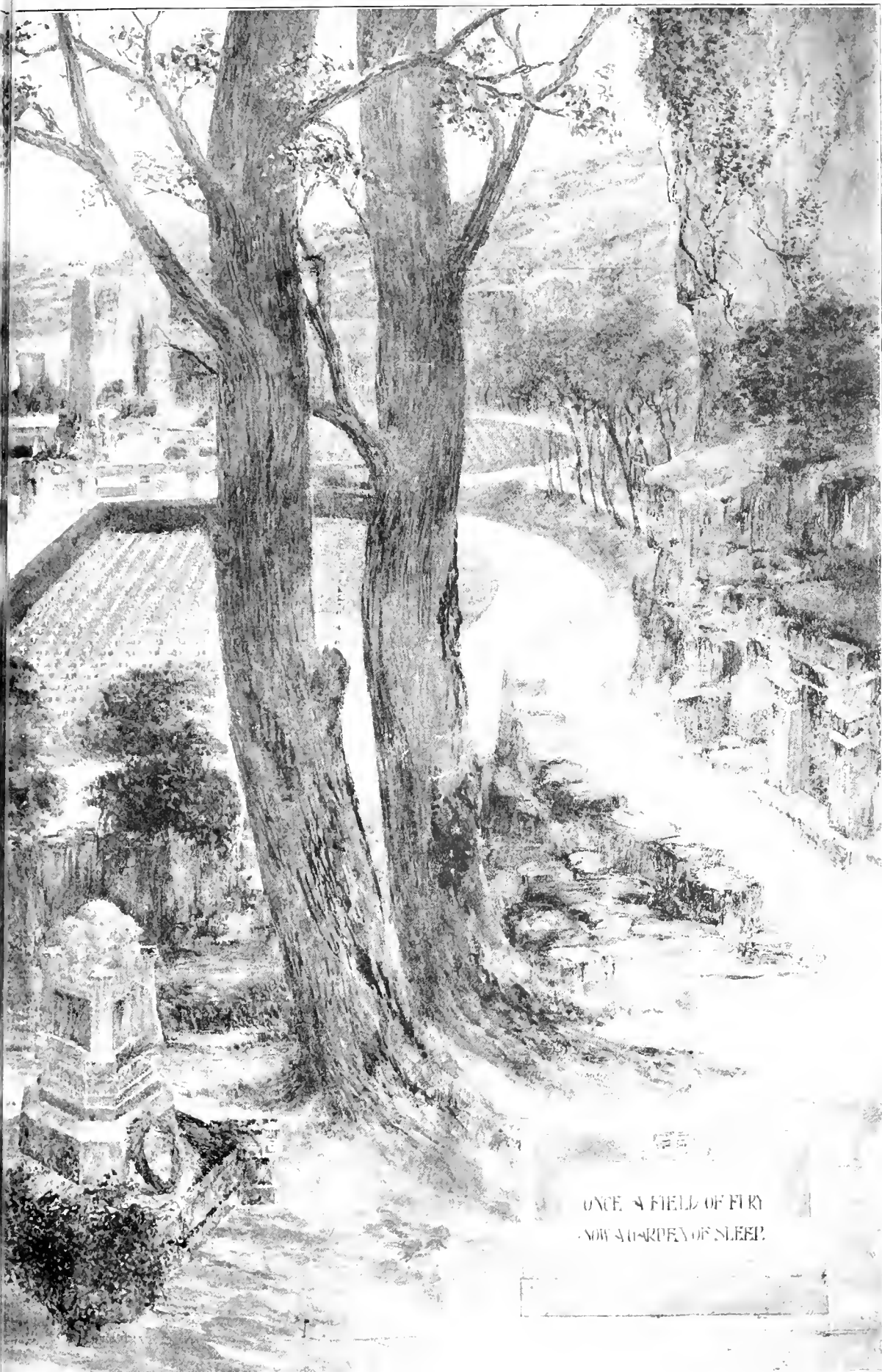
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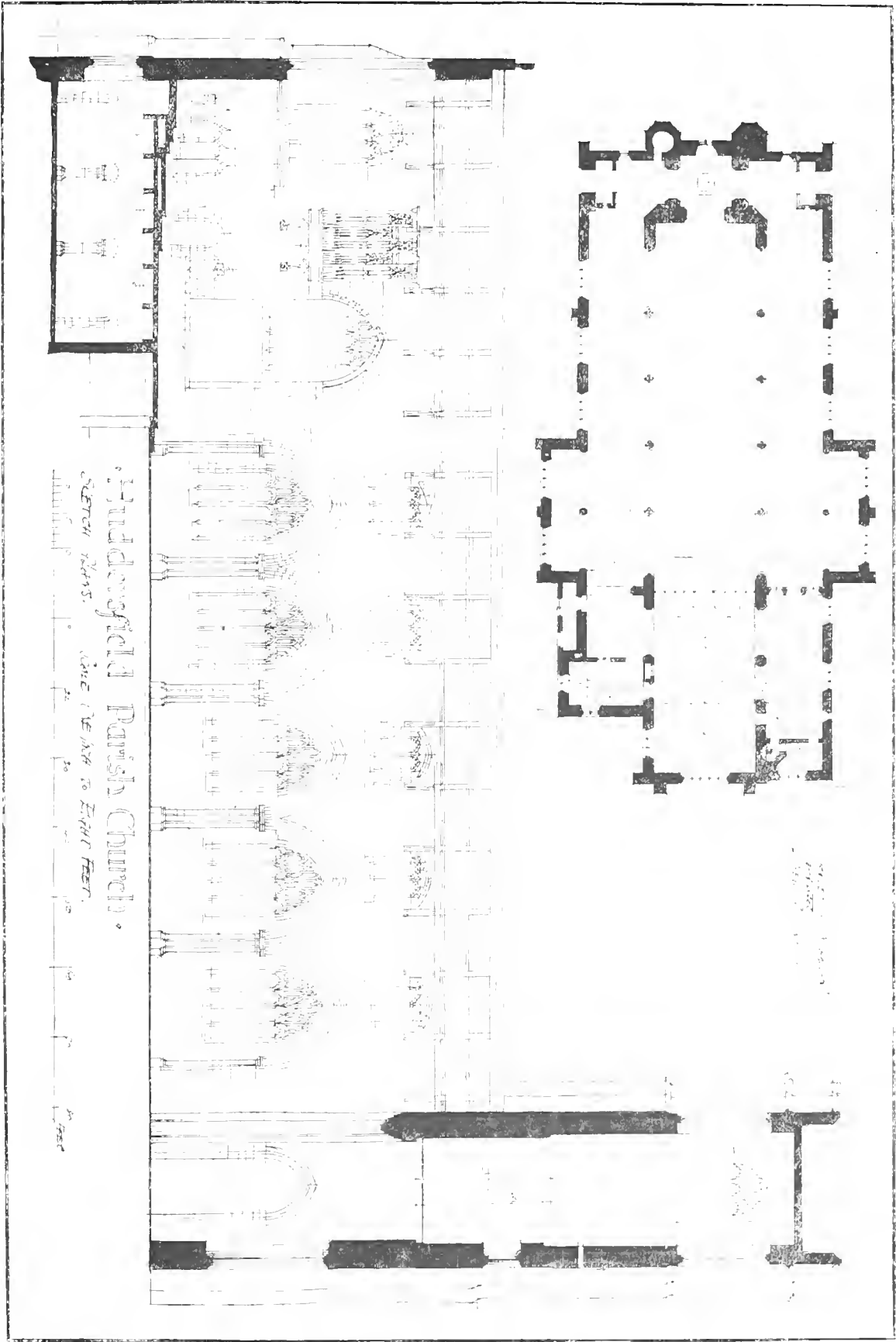


VISCOUNTESS BARRINGTON'S VILLAGE FOR DISABLED SOLDIERS AND SAILORS: COTTAGES, SHRIVENHAM, BERKS.—MR. H. G. IBBERTSON, F.R.I.B.A., Architect.



A BATTLEFIELD CEMETERY, "SOMEWHAT"





WORKING DRAWINGS, NEW PARISH CHURCH, UDDERSFIELD,
BY CHARLES A. NICHOLSON, B.A., M.A., F.R.I.B.A., Architect.

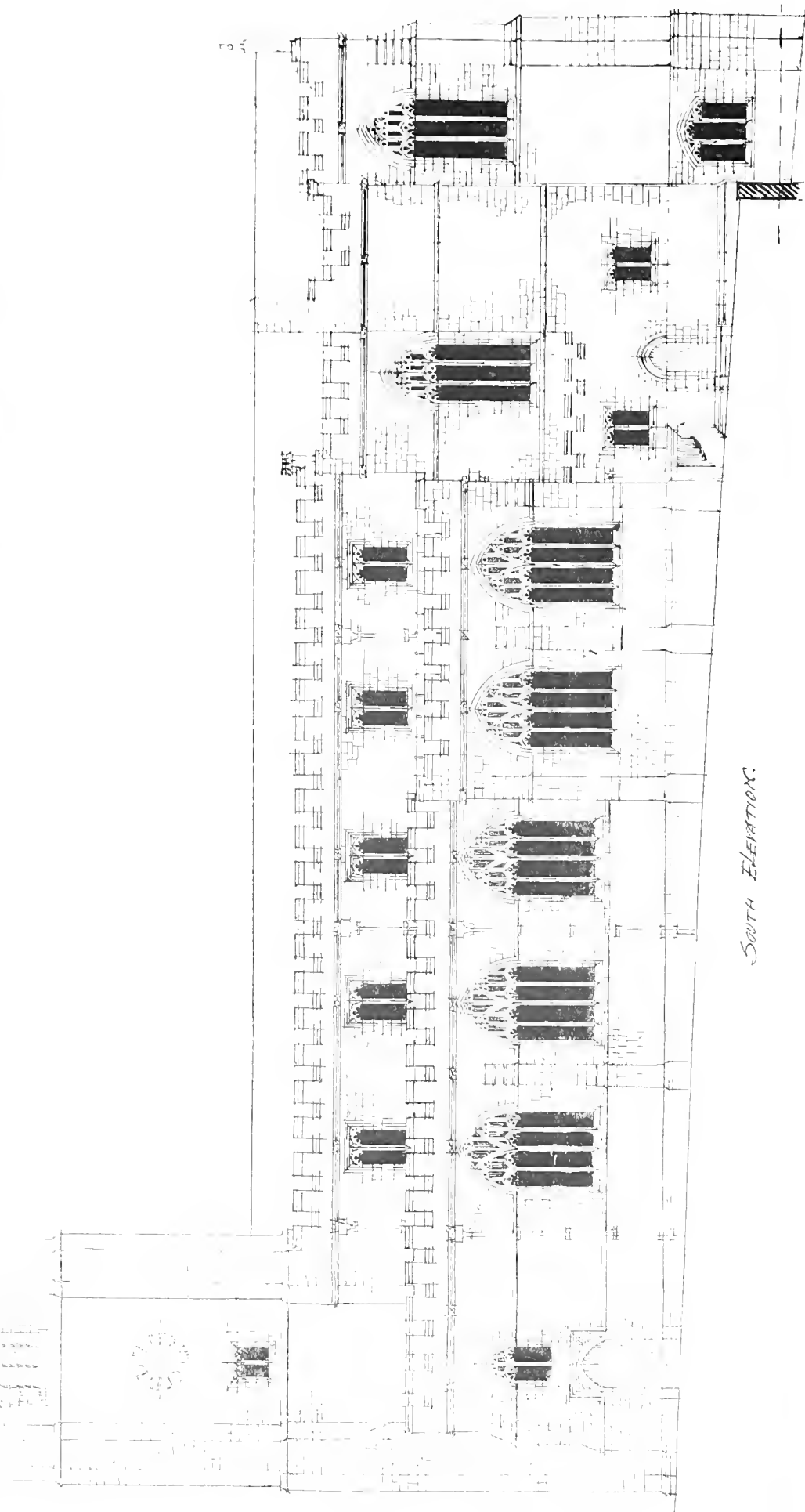


St. Andrew's Church, Huddersfield

Scale 1/4 inch = 1 foot

10 20 30 40 50 60 70 80 90 100

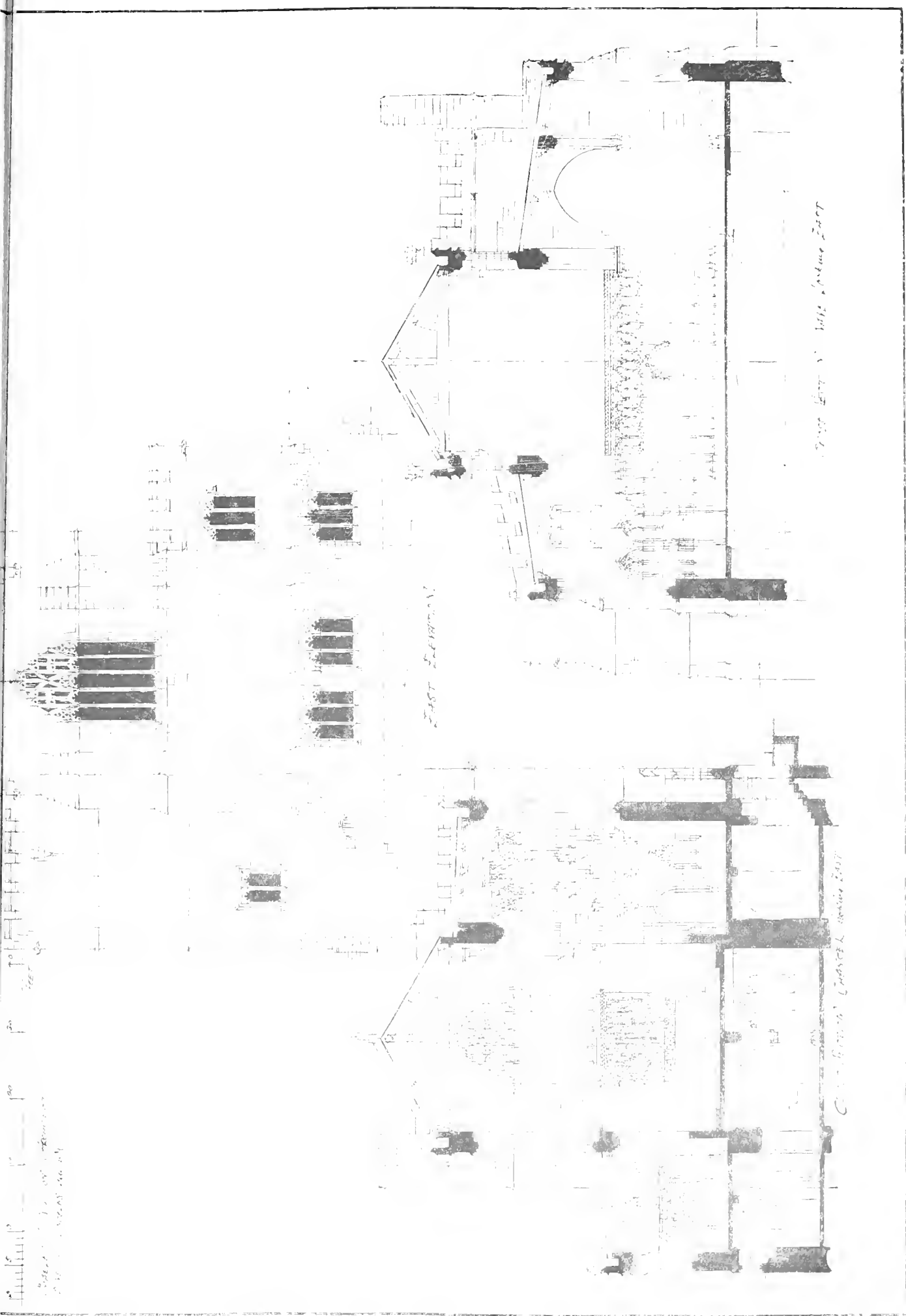
Consent of the Vestry
18th Nov 1864



SOUTH ELEVATION.



Huddersfield Parish Church



WORKING DRAWINGS, NEW PARISH CHURCH, HUDDERSFIELD.
J. H. COOPER, A. N. 1860-1865, F. R. I. B. A., Architect.



(Continued from page 520.)

Concrete as developed by modern science I conceive as being the finest structural building material the world has so far produced. Its chief advantages are adaptability, great strength, durability and monolithic character. The age of concrete building has not yet begun, and I foresee great possibilities for a future style of architecture, when the real characteristics of concrete are realised and the true principles of architecture are revived.

Coming now to the special subject of this paper, "The use of elliptical vaulting as a primary factor in contemporary architecture." The culminating point in all systems of construction and styles of architecture is the problem of roofing. One of the questions the designer must bear continually in mind is how the roof will affect the plan. Even where the roofs are flat the problem is not so simple as might at first be imagined, because when spans exceed more than moderate size it is necessary to introduce secondary beams or girders, and these result in the application of concentrated loads at fixed points, instead of being evenly distributed over the walls. Such loads, augmented from floor to floor, must necessarily have considerable influence on the plan, and must be carefully considered at the outset.

The walls in ordinary buildings serve two purposes, namely, to support the roof and to screen the sides.

An advantage of semi-elliptical vaulting is that the vaults may spring immediately from the floor level instead of being superimposed at a higher level upon walls or piers, as in Gothic architecture. Thus all thrust is absorbed at the ground level and no system of buttressing is required, a feature to which the remarkable stability of elliptical vaults is partly due. Further, the vault or roof being thus self-supporting, all structural or weight-bearing walls are eliminated from the building. The gable walls closing the ends of the vaults are in effect panels rather than walls, and consequently their thickness may be reduced to that of a partition. I have built gable walls to cottages only $\frac{1}{2}$ ins. thick; but from the fact of their being tied in by the concrete vault they possess remarkable strength, and the result is more permanent than a brick wall of twice the thickness as used in ordinary construction. Buildings roofed with elliptical vaults are in reality all roof.

It will be quickly realised that a form of construction is immensely strong by which a building consists of a series of bays or compartments of semi-elliptical vaults rising from the floor level; and for the amount of material employed, such is probably stronger than any other possible form of design.

The comparative weakness of ordinary construction may be measured by the extent to which the beam principle is employed. A wall, whether of brick, stone or concrete, is in effect a continuous strut. Its strength must be sufficient to resist bulging under superimposed loads, to be self-supporting and to withstand outside forces such as wind, rain, vibration and sudden shock. For example, a straight length of brick wall, moderate and equal in thickness throughout its height, standing free, as in the case of a garden or high boundary wall, is a singularly weak form of construction. Assuming a solid and immovable foundation its strength will depend on the practically negligible tensional strength of the mortar at the wall's base and on the weight of the wall itself when measured strictly between vertical lines on the wall's two faces. Should any settlement occur, no matter how small, the weight of any material moving outside these two vertical faces will at once be added to the destructive forces of the wall. Not much settlement will be necessary (maybe a few inches only) and the wall will topple over on account of its own weight. To this must be added the powerful forces of wind and rain which form a powerful lever when acting at the upper portion of the wall.

In all ordinary buildings the walls are in effect such as I have described, depending for their stability almost entirely on side abutment, whether by cross walls, end walls,

or by roof or floor ties. In buildings where the construction is uniform, as with reinforced concrete, or where floor and roof construction is of steel and concrete, the structure will be more or less permanent. But where soft timber is used for floors and roofs, as in ordinary house construction, the results are not permanent, because the walls depend for stability almost entirely on the floor joists and roof ties. These soon decay, and with the decreased resistance offered by these members the stability of the building is doomed. Cut out the floors and roofs, and it will not be long before the thick walls come toppling down by virtue of their own weight, if they are not blown over by the wind.

The remarkable stability of vault construction, whether of stone or concrete, lies in the fact that the vault substance is built, not vertical, but falling, and consequently the direction of gravity cannot be changed by any slight settlement in the foundation. The very weight of the material used serves to increase the vault's strength. Within the limits of compressional strength a vault may be uniformly loaded to any extent desired. The loaded vaults will be actually stronger than the unloaded vaults. Very different is the case with beam construction in which tensional strength is strictly limited within a comparatively small margin of safety. Any surplus overloading at once reduces strength, and places stability in danger.

The extraordinary strength and durability of Gothic vaulting are due to these facts. The old Gothic builders were masters of construction. From actual experience, without elaborate calculations to help them, they understood the principles of thrust and counter-thrust far better than the majority of engineers and architects do today, who place far too much reliance on mathematical calculations and theoretical stress diagrams.

A simple cross vault consists of four arched compartments, each of which tends to topple inwards. The four compartments exactly counter-balance each other, resulting in great constructional strength compared with the amount and weight of material employed. Any tendency to spread in one compartment is exactly counter-balanced by the same tendency in the adjoining compartment.

The first point in favour of semi-elliptical vaulting is that greater strength is produced with less material than is possible with any other form of construction, and it is therefore scientific and true to Nature. For this reason it may be adopted for architectural purposes as considered from the present point of view.

I include as semi-elliptical all curves approximating to this form, such as parabolic and pseudo-elliptical curves.

It is of course desirable with all forms of roofing that the loads thereon should be supported at as few points as possible, that the plan may not be unduly interfered with. By steel construction the number and size of the stanchions or piers may be reduced to a negligible quantity. With cross vaulting the results in this respect are at least equal, and in some cases superior to steel beam construction, since the floor space is entirely unrestricted, save at the four corners of each bay. By means of reinforced concrete the bays may be of any size desired, the construction requiring less material and giving greater strength than would be possible by any other means.

In architecture, as in other arts, there is a right and a wrong way of procedure. The right way gives free and truthful expression, both internally and externally, to the construction and natural form of the building. This was the principle of design during all the best periods of architecture, as being not only natural, but obviously right. In recent years a strange and wholly illogical doctrine has arisen, which teaches that design has nothing in common with construction, and that the best architects are those who most successfully disguise modern steel frame construction with applied architectural forms. Modern construction, we are told, must necessarily be very ugly if left to express itself naturally.

Theatrical scenery, whether executed in paint or stone, is not architecture, and we

shall never have a real style of modern architecture until this truth is properly grasped.

On the principle of architectural truth I base my theories of architecture. Either I am right, or I am wrong, and of this you must judge. In putting forward these views for your consideration I do so because they form the whole basis of my system of design. I could not explain the system in any other way.

Architectural design, as I understand it, consists in adjusting the several parts and the construction of a building so that the proportion or relation of parts in point of size produces an effect of harmony and unity. Unity of composition is produced by a definite ratio of parts because of the common element thus introduced between features otherwise having little or nothing in common.

Unity of idea is essential in architecture, because it is found in Nature. A leading thought should run through an entire structure. An architect must have a clear conception of his ideas before he can hope for success as a designer.

I have fault to find with the method of teaching design in our schools of architecture. In order to assist the students in their study of the principal styles they are encouraged to prepare designs for modern subjects having the outward form of the leading periods. It is not uncommon for a student to go through the whole age of architecture in this manner, commencing with the Greek and finishing up with a design in the most approved Tudor style.

To my mind, this method of instruction is fundamentally wrong and opposed to the true principles of architecture. Effect is studied without proper regard as to cause of effect. The causes from which many architectural features sprung have now ceased to exist, and their present introduction is therefore meaningless. Rather should present causes and conditions be considered and allowed to find full architectural expression just as earlier causes and conditions found expression, and therefore determined the nature and manner of earlier types of architecture.

Works of architecture should be designed from the inside and not from the outside. The internal form of a building will be determined by practical considerations and structural necessity.

There are three kinds of proportion in architecture—the vertical, the horizontal, and the neutral or square.

With former methods of construction only three pure styles of architecture were possible—namely, the Greek or horizontal style, the Gothic or vertical style, the Byzantine or square style. All other periods of architecture were impure in style in varying degree, measured by the departure from the basic proportion adopted. The rise and fall of Gothic art may clearly be traced from the twelfth century, when the pointed arch and vertical element were first introduced, through the thirteenth and fourteenth centuries, during which periods the vertical element found full and complete acceptance, thus dominating the style up to the fifteenth and sixteenth centuries. In the latter period the vertical principle gradually declined, till, with the introduction of the flat, four-centred arch, Gothic art as such ceased to exist.

With new methods of monolithic construction in reinforced concrete, three new and pure types of design became possible, opening up a wider field for design than the world has ever seen. Needless to say, success can only come by prolonged and united effort. We can at first do no more than start on the same principles from which all the great styles were evolved. If we do what we at least conceive to be right we need not fear criticism in an age when the very principles of art are so little understood. The public does not like anything strange; but with familiarity it is ready to approve to-day that which yesterday was condemned.

I will now offer a few remarks on some designs and buildings constructed with roofs of semi-elliptical reinforced concrete vaults. Some of these are illustrated by drawings on the walls of this room, and others by lantern slides which I will now show you.

[A series of photographic slides were then shown in illustration of several buildings designed by the lecturer, including a concrete war memorial church and a big chemical factory, of which representations appeared in *THE BUILDING NEWS* for May 28 and June 11, 1919, and besides these several photographs were exhibited on the lantern screen of bungalows in course of erection from Mr. Maurice S. R. Adams's designs at Herne Bay, Ruislip, and Hounslow, etc., while on the walls working drawings were hung of a parish hall to be built at Muswell Hill, two or three large garages, and private houses at Bushey, Bexhill, and other places.]

Naturally, as an architect, I am primarily interested in the architectural aspect of building, but it so happens that it is possible to erect houses by my system of reinforced concrete construction both more cheaply and more quickly than by ordinary methods of building. Unlike all other systems of construction which aim at economy by reducing the amount of material employed, and which must, therefore, be considered as being more or less temporary, my cottages, owing to their form of construction, are absolutely permanent; and I claim greater strength and durability for my cottages than is possible in any other way with the same amount of material.

So far I have not touched upon the constructional methods employed in carrying out buildings on this system. At the outset, owing to the disorganised condition of the building trade and in order that I might have a perfectly free hand in carrying out the work, I decided to do without the assistance of a contractor. As you are aware, there are very great difficulties to be overcome in order to build under any system at the present time. These difficulties are naturally intensified when new methods of building are adopted, which, in the first stages, must necessarily be experimental in order that unforeseen difficulties of execution may be overcome and mastered. A grave difficulty is the restricted output encouraged wholesale by the trade unions. Wages for what is very often very inefficient labour are abnormally high, and when high wages are coupled with restricted output the task of building, except at a grave loss, presents a problem of the greatest possible difficulty. Materials and manufactured goods have gone up in price from three to ten times their pre-war value, so that waste of all kinds must be prevented wherever possible. The British working man is certainly an expert as a waster of material, and as a class shows an entire absence of thrift. With labour rates at their present figure it is essential when building on a small scale to reduce the number of trades as much as possible so that one trade may not be kept waiting for another trade.

Other difficulties include the congested state of the railways resulting in numerous instances of lost goods and in other instances in considerable delay in delivery. For this reason it is desirable, as far as possible, to arrange for all materials to be on the site before work is commenced; but this is not always possible.

For purposes of economy and facility in execution I have cut out the whole of the steel reinforcement in the construction of my vaults. My method is to construct the vaults with pre-cast reinforced blocks $4\frac{1}{2}$ in. thick. These I cast in specially constructed boxes by a method which gives the blocks the proper curve required and also the correct mitre at the ends next the diagonal lines of the vaults. Eight casts are required to each bungalow, and this may be done by two labourers in eight working days, or by four labourers in four working days. The blocks are cast in stacks and may be unstaked after about four days. They require at least seven further days to mature before use.

One of the secrets of successful house construction in concrete is the use of a suitable aggregate. If too hard and dense the exposed surface will be cold, resulting in sweating and dampness due to condensation of moisture from the atmosphere. For my cottages I use either washed pan breeze or crushed clinker, which must be reasonably free from sulphur. No sand is required with these aggregates, which, when mixed with

cement in the proportion of one to six, make a splendid building material. The substance is too porous and breathes too freely for sweating to be possible, and is, to my mind, superior to brickwork for house construction. The concrete must be mixed fairly dry and thorough tamping is essential. In wet weather watering of the blocks is unnecessary; in fact, the difficulty is rather the opposite since the blocks take too long to mature if kept saturated. In hot summer weather, however, sprinkling is necessary for a few days after manufacture to make up for evaporation, and the blocks must not be allowed to dry white too quickly.

For my bungalows the roofs are finished either with thatch, or tiles, or merely rendered with Puddoed cement or granite and cement. The rendering should not be applied as a continuous covering, but should be divided up into squares of five or six feet by means of a paper joint which may be subsequently filled with hot mastic or some composition such as "Matex."

ARCHITECTS' AND SURVEYORS' ASSISTANTS' PROFESSIONAL UNION

A general business meeting of this Union was held at Caxton Hall, Westminster, S.W., on Friday, December 5, 1919, Mr. R. G. Llewellyn Evans, M.S.A. (chairman of the Executive Committee) in the chair.

The Chairman briefly stated the objects of the meeting, namely, to adopt rules for the government of the Union.

The Secretary read a letter of sympathy and support from the President of the Royal Institute of British Architects, Mr. John W. Simpson, also a letter from the Secretary of the Royal Institute stating that his Council had agreed to recognise the nominees of the Union as delegates representing assistants on the Architects' Assistants' Welfare Committee. The Society of Architects were granting similar recognition. He also read telegrams and letters of sympathy from branch secretaries and local corresponding members from Glasgow, Liverpool, Ayr, Norwich, Birmingham, Brighton, Newport, Stroud, Leeds, and Cardiff.

A question was asked by a member whether the Committee of the Union had approached the Surveyors' Institution similarly to the Royal Institute. The Secretary explained that the Architectural Institutions had been the founders of the Welfare Committee, and they had therefore been approached in the first place. The Committee had, however, asked these bodies to invite the Surveyors' Institution and the Quantity Surveyors' Association to co-operate with them, and he hoped that these latter institutions would be approached in due course.

A resolution adopting the rules as printed and circulated amongst the members was proposed by Mr. Ascroft, and seconded by Mr. Shingleton.

Mr. P. W. Farmer, the vice-chairman of the Executive Committee, explained the rules briefly to the meeting and the spirit in which they had been drafted.

Mr. F. R. Jelley, A.R.I.B.A., moved an amendment to rule 1, urging the professional institutions to adopt a minimum salary for assistants, according to their qualifications in them. He thought the Union must plumb for the minimum salary, and that they should approach these bodies to consider the needs of their assistant members.

Mr. John Mackie seconded the amendment.

Mr. Duncan, assistant secretary, explained that his Executive could not support the amendment. The aim, as expressed in the rules, "to abolish unpaid and underpaid assistants," was wide, and at the same time definite. The amendment was a matter of detail, and, if adopted, would tend to narrow the scope of the original clause. Mr. Braddock, as an old Trade Unionist, strongly supported the Committee, and Messrs. Shingleton and Bunker also spoke. Mr. Mauger suggested that the feeling of the meeting seemed to support the Committee, Messrs. Jelley and Mackie should be asked to withdraw their amendment. Mr. Jelley agreed to do this, though he would have preferred to have seen the amendment adopted. Mr. Mackie concurred.

A further amendment by Messrs. Jelley and Mackie asking the co-operation of the professional Press in discontinuing the insertion of the advertisements for vacancies where the salaries offered are either not mentioned or are less than the agreed minimum. Mr. Duncan, on behalf of the Executive, said that he must ask the meeting to reject this amendment. The Press had been very good to them, and they felt that the adoption of this amendment would be dictatorial. The proposers thereupon withdrew their amendment.

An amendment by Messrs. Don, Cameron, and A. T. Wright, of the Norwich branch, proposed that the share of branch gross income payable to headquarters should be one-half instead of three-quarters. The Secretary read a statement by these gentlemen in support of their amendment. Mr. Duncan, seconded by Mr. J. B. Hector, put forward an alternative amendment by the Committee: "But if, in the opinion of the Central Executive Committee, a particular branch is in need of special financial assistance, such remittance or part thereof may be refunded." Mr. Clarke supported the amendment. He felt that branches should be encouraged in every way possible to undertake local propaganda, and should not be hampered by want of funds.

The Secretary explained that the alternative amendment by the committee allowed more generous treatment to a branch than the original amendment. The feeling of the committee was entirely sympathetic to the branches. They had recently voted £5 towards the formation of a branch in Liverpool. The amendment was put to the meeting and lost, two members voting for it and forty-four against. The committee's alternative amendment was then put and adopted by fifty-five votes to one. The Chairman then put the original resolution adopting the rules with such amendment as had been passed by the meeting, and it was carried unanimously.

A resolution empowering the Executive Committee to enter into provisional agreements of affiliation with existing local bodies of assistants, such affiliation to be ratified later, was proposed by Mr. Clarke, seconded by Mr. Alton.

The Secretary explained that this resolution was to keep an open door for certain bodies who had approached them, but he hoped that they would see their way to join the union as branches. The committee did not wish to encourage the idea of affiliation by bodies which should share the full responsibilities and privileges of membership.

Messrs. T. Braddock, R. Jones, G. S. Stone, G. N. Hannam, and C. H. Rodwell, all surveyors, were elected to fill the five vacancies on the committee caused by the adoption of the London interim rules. Messrs. J. Harrison, J. A. Macdonald, and C. H. Rattenbury were elected as auditors, and Messrs. Strudwick and Ascroft as scrutineers.

Mr. Clarke proposed a vote of thanks to and confidence in the Executive Committee and the sub-committee which had drafted the rules, and that the same be entered in the minutes. He thought that the exertions of the committee were deserving of all praise, and the members were principally indebted to them as pioneers of the movement. The motion was seconded, and carried with acclamation. The Chairman replied on behalf of the committee. He said he was in the rather difficult position of being Chairman of the Executive Committee and Chairman of that meeting. He had therefore had to put a vote of thanks to himself. It was hard work on the committee, but it was work in a good cause, and he would like to pay special tribute to their truly indefatigable secretary. He hoped that friends at the back of the hall who were not members before going away would fill in an application form for membership and leave it behind.

The meeting had not primarily been called as a recruiting meeting. He thanked all the visitors for attending, especially in such inclement weather, and hoped that they would go away imbued with the spirit of the union.

While waiting for the result of the ballot Mr. R. G. Strachan, P.A.S.I., of the Executive, made an appeal to surveyors to come forward in larger numbers than they had hitherto done. The union was intended for them as well as for their architectural brethren, but they had not shown hitherto the same interest.

It might be that they were perhaps better paid, but this union had many other aims than mere remuneration of services which likewise deserved their interest.

Since this meeting information is to hand that the Council of the Architectural Association are also prepared to recognise the union as the organisation of assistants for purposes of the Assistants' Welfare Committee.

LIVERPOOL BRANCH.

A well-attended meeting was held in the small Sale Room, 14, Cook Street, Liverpool, on Monday, 8th inst., for the purpose of discussing the advisability of forming a Liverpool and District Branch of the Architects' and Surveyors' Assistants' Professional Union. The chair was occupied by Mr. T. M. Alexander.

Mr. J. Grieve (provisional branch secretary) outlined the history and objects of the Union.

Mr. F. H. Auger, president of the Merseyside Branch of the Engineering and Shipbuilding Draughtsmen's Association, outlined the history of that association, and stated that in the short period which had elapsed since its formation it had already achieved appreciable success in the improvement of the status of its members and the conditions under which they worked. At first people were always shy of such movements, but in their case the sceptics had been convinced.

Mr. T. Capsticks and Mr. C. F. Overly spoke in support of the proposal to form a branch in Liverpool, and, after some discussion, the proposal was agreed to, with only two dissentients.

Messages from the London Committee and the Norwich branch conveying greetings, and wishing success, were read, and resolutions of support and thanks for the pioneer work done in London, and of greeting to the newly-formed branch in Norwich, were carried.

HOW TO SAVE COAL.

Mr. Ian MacAlister, secretary of the Royal Institute of British Architects, Conduit Street, writes:—

"The high cost of coal and the necessity for conserving the country's supplies make it incumbent upon everyone to economise in its consumption. The Council of the Royal Institute of British Architects venture therefore to draw the attention of the public to a means at once simple and effective of achieving this end. A large proportion of our people live in houses still fitted with firegrates which consume great quantities of coal without giving the consumer anything approaching the full benefits of its combustion. Such people are advised that coal can be saved, rooms be heated at less cost, the atmosphere of our great cities be brightened, and a considerable saving of money be effected by the following simple means:—Line your grates with firebricks. See that the firebricks are high enough to stand up above the fire. Take care that the back brick leans forward and is not more than four inches from the front bars. Fill in the space at the back with fire-clay. See that your register is open not more than one-fourth of its full capacity. If you have no register, partially close the chimney opening with another fire brick. Fill in the front space beneath the grate with a movable piece of metal. If you cannot do this, put a small fire-tile in the bottom of the grate. If these directions are carefully followed the consumer will help the nation to save coal, to lessen transport, to leave large quantities available for export, and therefore incidentally to reduce taxation."

Mr. William Farrar, chief assistant borough and water engineer of Wigan, has been appointed surveyor and water engineer at Ashton-in-Makerfield.

On Sunday, December 14, at the conclusion of morning service, the tablet erected in Dorrington church to the memory of those villagers who fell in the war was unveiled. In addition to the tablet, the war memorial consists of mural decoration, consisting of figures representing Christ in Glory, the Annunciation, and Sts. George and David. The paintings were carried out by Miss Falcon, and the tablet is the work of Mr. Jones (Shrewsbury).

Correspondence.

UNITY IN THE R.I.B.A.

To the Editor of THE BUILDING NEWS.

Sir,—The correspondence now proceeding in your columns revives a very old controversy. Disunion within the Institute dates back to its inception almost, and is due to the membership being divided into classes, and to little else, and is only to be cured by absorption of Fellows, Associates, and Licentiates into one class of practising members—thus following the lead of the greatest of our societies, the "Royal" and the "Antiquaries."

The freedom of the Society of Architects from internecine strife has been due to its one-class organisation, and this freedom has given opportunity for attention to other matters, for expansion, and for development of influence, and for the doing of much good work. If that body is foolish enough to split its members into classes it will commit its first capital blunder.

It is for the Institute to move towards unity within its ranks if there is to be advance, and not for the society to move towards disunion.—Yours, etc.,

G. A. T. MIDDLETON.

Army General and Commercial
College, Cologne, A.P.O., G.R.,
British Army of the Rhine,
December 17, 1919.

LEGAL INTELLIGENCE.

CHARGES FOR FURNISHED ROOMS.—An interesting decision concerning the renting of furnished apartments was made by Judge Bray at Brentford County Court last week. A Mr. Goldsmith, who occupies half of a house, asked for an order that the rent should not exceed by more than 25 per cent. that which applied in August, 1914, and for an order that any amount charged above that 25 per cent. should be refunded. He had paid 33s. a week, which included a charge for hire of furniture and use of electric light. In October the landlady raised the rent to £2 12s. 6d. per week. The rent of the whole house, unfurnished, for 1914 was £50, which was brought up to about £78 by rates, taxes, and lighting. The latter charges had risen considerably since then. The Judge made the order asked for, fixing the rent for the furnished rooms, inclusive of a sum to meet the increased rates, etc., at £2 2s. 6d. a week, and ordered the repayment of rent paid over that amount.

Mr. Morrison Fairclough, of Courtlands, Cumberland Gate, Kew, and of Christian Street, Stepney, E., carman and contractor, of Messrs. T. M. Fairclough and Sons, Limited, has left £25,379.

Mr. Alfred S. E. Ackermann has been awarded the president's gold medal for the paper entitled "Experiments with Clay in Relation to Piles," which he read before the Society of Engineers in March last.

The old battlefield of Bosworth is to have a new war memorial erected upon it, a tender having been accepted on Saturday for the erection of a cross, at a cost of £285, in Market Bosworth market place, to the memory of fallen men of the town.

A number of houses erected by the Urban District Council of Bentley, near Doncaster, are rented at 8s. 6d. weekly, and at a meeting of the Council last week the Housing Commissioner of Yorkshire wrote that this rent was not such as he could recommend to the Ministry of Health as reasonable. The economic rent of the houses is 17s. 5d. weekly. The Council, which consists largely of Labour members, decided, however, that 8s. 6d. is a reasonable rent, and declined to alter it. An amendment to increase it by 1s. per week was defeated.

Cupar war memorial, which it is now decided is to be placed at the St. Catherine Street entrance to the Hood Park, is to be a bronze figure of Peace, with wings outspread, symbolising the flight upwards from the sacrifice of war. It will rest on a pedestal of white marble. The base of the erection will be 24 feet square, and the height will be about 22 feet, the bronze figure measuring 10 feet to the tips of the wings. There will be four bronze panels, the front one being reserved for an inscription, and the other three for the roll of honour.

PROFESSIONAL AND TRADE SOCIETIES.

GLASGOW ARCHAEOLOGICAL SOCIETY.—Mr. W. G. Black, LL.D., gave an address on "Scottish Market Crosses," with lantern illustrations, to the members of the Glasgow Archaeological Society at a meeting held last week. Dr. Black showed on the screen the market crosses of Edinburgh and Aberdeen, as well as two simple and more characteristic columns at Crail and Haddington. He traced the origin of the market cross—which was rarely a true cross—to standing stones such as the monoliths at Clackmannan, Crailing, and Munnigall. At Kilwinning there was a unique example of the ancient custom of affixing a wooden cross to a standing stone, thus conferring a Christian significance upon a pre-Christian communal symbol. The address throughout was most interesting, and was greatly appreciated. Dr. and Mrs. Black, it may be mentioned, have offered to give a replica of the old Glasgow Cross, for erection in High Street, Glasgow.

MASTER BUILDERS AND THE FUTURE.—The annual dinner of the Edinburgh, Leith, and District Building Trades' Association was held in Edinburgh on December 19, the president, Mr. David Angus, in the chair. Mr. W. Y. Carrick proposed the "Corporations of Edinburgh and Leith," and Lord Provost Chesser, in reply, said that the question of the hour was housing. The financial aspect was at the root of the whole question, and if local authorities had too large a burden put on them the local builders would be barred from participating in the work. It was not really a local authority's business, but should have been taken to the local builders at the beginning. What would remedy matters would be the removal of certain restrictions, such as the restriction of material and the Rent Restrictions Act, though he was afraid that for some time to come that would be very difficult. Provost Lindsay said building should be left to private enterprise, and if the Government had realised that at the beginning there would not have been the present impasse on the housing question. In Leith they had secured approval of houses to be erected as well as reconstruction of property, and the latter, in his opinion, would be of more use than the former. The toast of the "Edinburgh, Leith, and District Building Trades' Association" was proposed by Mr. Herbert Ryle. The Association, he said, was the focus of the building industry in Edinburgh, and had a very good effect in the city by presenting keen competition, good tenders, and the making of production cheaper, with a view to the encouragement of building. The chairman, in reply, said that only by mutual co-operation between master and man would they arrive at a mutual understanding. Output was too restricted, and at the present was tending towards Bolshevism. The workers during the war were coerced into not exceeding a certain output, and that had led to the belief that restricted output and hours would make work for all. Such an outlook would have to be altered. With regard to housing, it was believed that the costs were due to builders profiteering. It was recognised that the cost to the extent of about 50 per cent. was due to the high wages paid, and as an example he would point out that if the latest claim by the operatives for an advance of 2s. 2d. per hour were allowed it would represent an addition of £90 on each house costing £1,000. The subsidy scheme which had been proposed was absolutely wrong from whatever point it might be viewed, as was the housing scheme, for it would not assist the real working class. The solution of the whole economic chaos would be the removal of all restrictive legislation and all Government control, a move which would bring about the revival of trade competition and a period of solid hard work by everybody.

NOTTINGHAM AND DERRY ARCHITECTURAL SOCIETY.—At a meeting of the society held on Tuesday, December 16, Mr. Watkins, president, in the chair, a letter was read from the Town Clerk of Nottingham that the School of Art Committee regretted that it was not possible to accede to the society's suggestion that a representative of the Architectural

Society should be co-opted on the committee. Two associates were elected, and, after other business, Mr. P. H. Currey, F.R.I.B.A., Derby, delivered a lantern lecture on "The Manor House at Wingfield," to which ladies and friends had been invited. Mr. Currey pointed out that the special interest of Wingfield consisted in its being an example of a fully-developed type of English country house, all built at one time. The remains of a neighbouring mound indicated probable early occupation of the site, which was adapted for easy defence. The manor was held at Domesday by Robert, under Wm. Peveril as overlord, conveyed to Robert de Pavely, in whose family it remained till the time of Henry VI., when it passed through heiresses to the family of Swillington. The property was successfully claimed by Ralph, Lord Cromwell, who was born at Lambley, Notts. He was a favourite of the King, being Treasurer of Exchequer, Master of King's Hounds, Constable of Nottingham Castle, Keeper of Sherwood Forest, Parks of Clipstone, etc. He built Tattershall Tower and church, Wingfield Manor House, and rebuilt Wingfield church. It was a fortified house, the necessity of fortifications being shown by the Lancastrian raid on Derby and Elvaston. The lecturer described how the house was built round two courtyards, and was a natural development from the Saxon Hall, with bank and stockade. The outer court comprised the great barn and farm buildings. Features of the manor were the beautiful masonry, the entrance to the inner court, and the numerous chimneys. The porch and oriel of the Great Hall, the centre of life in a medieval house, are fine examples of the 15th century work at its best. Views of the buttery and kitchens were shown, also the remains of the drawing-room, which was a bower over the buttery. The drawing-room has often been called the chapel, but, in Mr. Currey's opinion, this is an error due to the large traceried window. The site of the chapel is unknown. Attention was called to the beautiful treatment of the vaulted roof and carved bosses of the undercroft. The greater part of the captivity of Mary Queen of Scots was spent at Wingfield under the Earl of Shrewsbury until she was removed to Tutbury. The manor passed to the Earl of Pembroke in 1616, and on the outbreak of civil war was garrisoned for the Parliamentary party, but was captured for the King after four days' siege by Wm. Cavendish, Earl of Newcastle. In 1644 it was besieged, but Col. Dalby held it with great stubbornness for many months, until finally it was taken by assault by Col. Gell. The house was dismantled by order of Parliament. After the Restoration it passed to the family of Halton, the present owners. It was then partially restored, the hall divided into two stories and several rooms and square-headed windows inserted. A hearty vote of thanks was accorded the lecturer for such a deeply interesting paper.

THE LOST CITIES OF CEYLON.—Under the auspices of the Scottish Geographical Society, Miss J. E. Mitton lectured last week in the Synod Hall, Edinburgh, on the lost cities of Ceylon. Lord Salvesen, who presided, introduced Miss Mitton as the editor of "Who's Who," the author of several well-known books of travel and novels. Miss Mitton told the fascinating story of the island kings who flourished from 500 B.C. to 1300 A.D. Of the wonderful civilisation of these ancient Cingalese in the Royal city of Anuradhapura the lecturer had much to say. Pleasure gardens, public baths, and even hospitals for infectious diseases were among the many modern institutions which adorned that remarkable period in the history of Ceylon. Monuments of a size and beauty unsurpassed were as fresh to-day as they were two thousand years ago. It was worthy of note, Miss Mitton remarked, that no people in the world had such complete and authentic chronicles as the Cingalese in the "Mahawansa," a record which, by its many human touches, made the past live again.

The Royal Institute of Public Health have accepted an invitation from the Burgomaster of Brussels (M. Adolphe Max), on behalf of the Belgian municipalities and Universities, to hold their congress in Brussels next May.

Our Office Table.

The Westminster City Council favour Parliament Square as a site for the Cenotaph. The present temporary structure is to be placed in the Imperial War Museum. Despite its solid appearance, the monument is of very slight construction, and all things considered it has stood the weather well. It was designed and erected in a week. The Office of Works approached Sir Edwin Lutyens on the subject on Friday, July 11. The Cenotaph was designed by him overnight, and plans were submitted the following day. On the following Monday the erection was begun, and it was ready for the Peace procession on Saturday, July 19. Owing to the hurry to get the work done the timber used was the first which came to hand, not such as would have been chosen under normal conditions. The structure was considered too frail to have ladders reared against it, and the draping with national flags was done with the aid of the Fire Brigade.

According to a patent by H. Alexander, Charnmouth Street, Leeds, Yorkshire, sand-lime bricks, blocks, tiles, etc., are hardened by exposing them to superheated steam at a pressure of 5-10 lb. per sq. in. above atmospheric pressure in hardening chambers made of ferro-concrete or the like, which may be erected in situ. The blocks, after moulding, are placed in small wagons and wheeled into the hardening chambers, and are subjected to the action of saturated low-pressure steam to effect a preliminary drying. The temperature of the steam is then raised to about the temperature of saturated steam at a pressure of 120 lb. per sq. in., the initial low-pressure being maintained, to complete the hardening. The steam is preferably superheated by waste gases from a furnace or from the smoke-stack of the boiler generating the steam. The invention is distinguished from a process in which artificial stone is hardened by treatment with superheated steam at atmospheric pressure.

"This is the most crass instance of obstruction and red tape I have ever come across on the part of a Government Department; it is absolutely absurd," remarked the chairman of Forde Rural Council (Captain J. M. Naylor) at a protest meeting over the action by the Ministry of Health. Over two months ago the council submitted its housing scheme, and stated they would complete it within the earliest practicable time. The Ministry have now returned the scheme because the council did not give an exact date upon which they would complete their scheme, and for that reason the chairman said the Ministry appeared to have withheld their approval of sites inspected six weeks ago. Until the council had that approval and had overcome the difficulties of raising a local loan and of obtaining building contracts, it was utterly impossible to give a date when the scheme would be completed. It was agreed to give the last available date under the regulations, July 31, 1922, though the council expect to complete the scheme earlier, and to ask Major David Davies M.P., to ventilate their grievance against Dr. Addison's Department.

Says the *Morning Post*:—Some years ago one of the parishioners of a church in the suburbs reported his vicar to the Bishop of London for the heinous offence of "wearing a baldachin." For the benefit of those unversed in ecclesiastical technicalities it may be explained that "baldachin" is the name given in this country to a stone canopy projecting over the altar. This reminds one of the old country sexton who said that he really did not know what things were coming to. "Our new rector always has a triforium carried before him as he walks up the nave."

The Council of Liverpool University has appointed Mr. T. E. Peet, Lecturer in Egyptology in Manchester University, to the Brunner Chair of Egyptology. Mr. T. E. Peet is well known as a distinguished archaeologist. His first archaeological work (1906-9) was in connection with the pre-historic periods in Italy, embodied in his "Stone and Bronze Ages in Italy and Sicily." In 1908-9 he took part in the excavations of the British School

of Rome in Malta, and in 1909 he joined in the excavations of Waco and Thompson in Thessaly. In 1909 Mr. Peet first entered upon Egyptian archaeology, assisting in Professor Garstang's excavations of that winter. The following season he was invited to excavate for the Egypt Exploration Fund at Abydos. Mr. Peet served in the Army Service Corps at Salonica as interpreter from October, 1915, to June, 1917, and later in Franco with The King's (Liverpool Regiment).

At a meeting in the Glasgow School of Art last Friday the diplomas won during session 1918-19 were presented to the successful students by Mrs. Patrick S. Dunn. Mr. Dunn, chairman of the governors, stated that the school was now in a much more flourishing condition than at any time since the commencement of the war, and that this session bade fair to establish a record as regards enrolments. A considerable number of ex-service men were now being trained in various crafts and as artists and art teachers. The Chairman further stated that the standard of work being done in the school, despite the disturbing influences of the unsettled conditions prevailing generally, was surprisingly high, and could not be said to be in any way behind the high standards formerly reached. The following students were presented with diplomas:—Section of Drawing and Painting—Anne D. Alexander, Muriel F. Baxter, Janet F. Brown, Jessie Mary Cairns, Frederick Leslie Cooper, Janette Grace Daly, Jessie Isobel Garrow, Isabella Grey (Mrs. Matheson), Margaret Miller Kirkland, Gertrude M. Lockhart, William Macfarlane, Christine McGregor, Ann Walker Pearson, Dora Pintner, Isabella S. Tait, Albert Gordon Thomas. Section of Design and Decorative Art—Jean R. Paton, Janet M. Wilson. Diplomas endorsed for a successfully completed course of post diploma study—Cecil G. J. Hay, Chas. L. Davidson, Jessie B. Jones, Anne S. Polson, Janet M. Miller, Grace Melvin, Mary Ramsay.

Mr. A. H. Blake lectured on Saturday to members of the London Rambling Society on old St. Paul's, relating the interesting facts while standing in the open air, by the few remains of the ancient cloisters. Inside the cathedral the visitors heard the story of the only complete relic of old St. Paul's—the monument of Dr. Donne. This famous Dean refused to have his portrait painted unless he was lying on a couch, wrapped in a shroud, with a sepulchral urn at his feet, and it is thus that the sculptor has represented him. In the great fire this curious monument was split in two, but no sign of this can now be detected. The party were interested to find that the modern Paul's Cross is not (as its inscription states it is) on the actual site of the original Cross.

The Rev. W. F. G. Sandwith, rector of St. Bartholomew the Great, E.C., on behalf of the Restoration Committee, states that his former appeal for £2,000 to secure the remaining six bays of the east wall of the Cloister, resulted in over £900 being received. The site has been definitely secured, and the property bought with possession in 1922, instead of 1926. It is hoped that this will enable the 800th anniversary of the founding of the Priory by Rahere, in 1123, to be commemorated by the handing back of these six bays of his cloister to his church. £1,300 are still required, and subscriptions, which may be extended over three years; should be sent to the Rector, the Vestry, St. Bartholomew the Great, E.C., or to any member of the Restoration Committee.

The Ministry of Transport have appointed a committee to investigate complaints of the unsatisfactory foothold afforded horses by modern road surfaces. In an effort to suppress the dust nuisance waterproof surfaces were advocated, and, while this provided mechanically propelled vehicles with an excellent surface, it is alleged to be unsatisfactory for horses. A competition was organised by the Road Improvement Association and the R.S.P.C.A., with a prize of £100, for a new or improved shoe, and while 850 were received from all parts of the world, none proved meritorious enough to be awarded the prize. Three patterns, however, were selected, and granted premiums, and particulars can be obtained from the R.I.A., 15, Dartmouth Street, Westminster, S.W.1.



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